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EXOPHTHALMIC GOITRE.

By A. Shaffer, M.D., Bakersfield, Cal.

Read before the San Joaquin Valley Medical Society.

In the selection of the subject of this paper, I was guided more by the desire to bring before the Society some special points and ideas impressed upon me during the treatment of cases of exophthalmic goitre, rather than by the wish to present a more pretentious or exhaustive treatise on some more common affection. I feel, moreover, that the importance of this subject is not lessened by the fact that this disease is an unusual one.

While the general practitioner should not be expected at all times to recognize the rarer forms of disease, yet the necessity of making an early diagnosis of exophthalmic goitre is so apparent, that the physician should be ever on the alert, especially as, at its inception, the symptoms are in many cases of an equivocal character. In fact, the symptoms in the worst cases are often far removed from the familiar descriptions and engravings met with in medical works.

I believe the attempt to form the symptoms of most diseases into a typical group, is productive of much harm. We all recall the classic descriptions of peritonitis so dogmatically set forth by the old writers, and yet what little reliance we can now place upon them at the bedside. I know, as a fact, that exophthalmic goitre is frequently overlooked by good observers, and that the affection is not so infrequent as we are wont to believe. For instance, in the form, accompanied by a faulty metabolism and the consequent autointoxication, a slight enlargement of the thyroid with moderate protrusion of the eyeballs may be readily overlooked, while the graver symptoms are attributed to visceral disease or to some acute infectious disorder.

Though exophthalmic goitre has primarily all the marks of a pure neurosis, and though the subsequent cardiac and abdominal disturbance soon become of supreme importance, yet I regard the thyroid as the dominant factor in this disease. In nearly all the cases, I have been struck with the peculiar rapid, almost choreic movements present. The most ordinary voluntary actions were accomplished by movements of this character. This, together with the pronounced tachycardia would point to the existence in the circulation of some product whose presence has an exciting effect on the entire nervous system.

The thought has often recurred to me that perhaps, under a peculiar stimulus, the thyroid gland itself throws into the circulation enormous and toxic quantities of its normal secretion. That this secretion has a powerful effect on nutrition, and in large doses is capable of producing the most marked disturbance, has been lately repeatedly demonstrated. The opinion that the thyroid in exophthalmic goitre exhibits signs of increased functional activity, may, I think, be advanced from the results of pathological examinations, which simply show increase in its vascular structure. We have, of course, many examples of abnormal action in the different secreting glands having excretory ducts, as the parotid, mammary, sudoriferous and intestinal. If the nervous mechanism regulating the secretion of these glands is subject to abnormal action, then there is no reason to doubt its occurrence in the ductless glands. Moreover, in pregnancy, we have a physiological enlargement of this character, an increase in function being probably demanded in the development of the fetus. More light might be thrown on this point by removing the thyroid in a number of sluts before impregnation, and afterwards noting the condition of their pups at birth.

Furthermore, contrasting the symptoms of exophthalmic goitre with those of a disease which I consider its antipode, the result is indeed striking. I refer to the ordinary forms of myxedema and to those cases of simple goitre where the enormous increase of interstitial tissue has completely or quite obliterated the secreting function of the gland. We have in the one a rapidity of thought, in the other, a sluggish mentality; the muscular activity or excitability of exophthalmic goitre, in contrast with the extraordinary slowness of the muscular reactions in myxedema. In fine, you might say in the one we have a hyperesthetic, in the other an anesthetic condition of all the senses and functions. According to this view, then, we have in exophthalmic goitre an increased secretion of the thyroid causing a typical train of symptoms, as in myxedema we have a decreased or abolished secretion, due to atrophy or ablation, producing a train of symptoms in striking contrast to the former.

That this disease is far more frequently met with in women than in men, is due, I believe, to the fact, that in women under normal conditions, there is a physiological enlargement of the thyroid, and it is only to be expected that the nervous influence, which determines and dominates this increased activity would be more frequently deranged in them than in men in whom it is never normally active. Should this theory prove to be correct, a partial or total removal of the gland would prove a justifiable and curative operation.

Some years ago, in consultation with Dr. Perry, of Tehachapi, I wished to remove the thyroid in the case of a male afflicted with exophthalmic goitre; the doctor demurred and the patient refused to an operation. In the three cases I have seen since then, I did not have the temerity to undertake a tentative operation of this serious character. Though from both a physiological and pathological standpoint, I consider it a more rational procedure than the ablation of the superior cervical ganglion, an operation which, I believe, has been performed several times, with, however, negative results. Should, however, a case present itself again under favorable conditions, I shall either partially or entirely remove the thyroid.

Another point I wish to bring before the Society, and which I have noted in five of the six cases seen by me in the last ten years, is a pronounced hyperesthetic condition of the abdominal region. The symptoms at times simulate very closely pelvic peritonitis. Severe pain may, however, be present in any part of the body. One case in fact was being treated for acute rheumatism of the shoulder joint, yet there were absolutely no inflammatory symptoms present except the pain. This was a typical case of exophthalmic goitre, which terminated fatally a few days after I first saw the patient. In this case the cardiac symptoms predominated, and at the *post-mortem* examination I found an enlarged heart; the walls of the left ventricle were also extremely thin.

I would note here that in all the subjects that I have observed, including the male, there were well marked signs of scrofula both of the gross and spiritual types.

The tachycardia I found an early symptom in all the cases. This symptom alone caused me to suspect the disease in a patient, though the thyroid was only a little enlarged and the exophthalmos but slight. She came to me wishing an operation performed on the cervix for the cure of sterility. I advised against any pelvic operation, fearing to precipitate an acute attack of exophthalmic goitre. This patient was soon afterwards operated on in Los Angeles by a prominent surgeon; the cervix being simply dilated and the uterine cavity curetted. She returned to me a few weeks later in a highly nervous condition, with a pulse of 210, and a temperature of 101°. She also complained of severe pelvic pains. From the history I at first suspected pelvic peritonitis, there being marked rigidity of the abdominal muscles over that region, and considerable tenderness upon vaginal examination. The exophthalmos, however, was now quite well marked and the thyroid enlarged. The pulse rate continued between 180 and 210 for two weeks. At the autopsy I found no signs of inflammatory action, but the uterus was very small, and both ovaries were atrophied. Though she was a large woman and weighed 140 pounds, the osseous system being particularly well developed, yet the heart was rather small, as were also the aorta and other vessels. Before death the exophthalmos and goitrous enlargement became progressively more pronounced.

Another point I would call attention to here was the atrophic, perhaps undeveloped condition of the pelvic organs in the three cases on whom I performed a *post-mortem* examination. Four of the five women treated for this disorder were sterile; the fifth was unmarried.

The minds in four of these cases remained clear to the end. The last patient, whom I saw a few days before death, was in a semi-comatose condition. Yet this was a well marked case, and presented a typical picture of exophthalmic goitre. However, this patient was emaciated to an extreme degree, the nutrition being profoundly disturbed. As her attending physician, Dr. Taggart, was away at the time, I failed to secure a much desired *post-mortem* examination.

Another point I wish to bring before you for discussion is the advisability of performing pelvic operations on these subjects. In two of the cases seen by me surgical operations precipitated an acute attack. These patients are of an extremely emotional temperament, and should, in my opinion, be kept free from all depressing emotion or exciting causes of any character.

In regard to the tachycardia in exophthalmic goitre and its differentiation from that of myocarditis (these affections may, of course, be associated), I have noted the fact that in exophthalmic goitre the pulse is not markedly affected on slight exertion, though the heart may be beating at a terrific rate; whereas in myocarditis the pulse is disturbed, becoming either more rapid or temporarily slowed and often markedly irregular.

In conclusion, I wish to repeat, as I said at the outset, my object was simply to present a view of this disease as seen by myself. I also regret that I was forced to draw my deductions from a series of six cases, in only three of which was I able to make but incomplete *post-mortem* examinations.

SERUM THERAPY.

By A. M. HENDERSON, M.D, Sacramento, Cal.

Read before the California Northern District Medical Society.

Although the germ theory has for many years attracted the attention of the medical profession, it has only been within the last decade that Pasteur, Koch, and other scientists, by persistent effort, and with the perfection of the microscope and its accessories and the improved methods of staining, have thoroughly established it. Scientists, however, did not wait for the theory to be positively demonstrated, nor for a germ to be isolated for each of the many infectious diseases, but early in its life history they commenced to study the causal relationship of the germ to the disease. The bacillus of anthrax being one of the earliest of the germs isolated and studied was naturally made a basis of study in the formation of theories as to the manner in which the germ caused the disease.

Several theories were formulated, the then most plausible one attributing the disease to the interference with the functions of the various organs by the extensive reproduction of the germ in the organs. The theory was exploded, so far as its general applicability, by the demonstration that in certain diseases, such as diphtheria and tetanus, the infecting germ does not generally enter the circulation, and is to be found only within a short radius of the seat of infection. However, the reproduction of such vast numbers of bacteria in the tissues and circulating fluids, and the consequent mechanical interference, does apply in part to such diseases as anthrax and septicemia.

With the refutation of this hypothesis, the theory which is now quite generally accepted of the causation of the disease, by the entrance into the general circulation of toxic products generated by the germs, suggested itself to the scientists. Chemical poisons were isolated in the growth of various germs in special culture media. Brieger, in isolating tetanin from the arm of a patient affected with tetanus, was the first to satisfactorily demonstrate the application of this theory to disease in man. A new branch has thus been added to the science of chemistry, that of bacteriological chemistry; a branch which offers a large field for original investigation.

Bacteriology having explained the cause of infectious diseases, and bacteriological chemistry the manner of causation, it remained for therapeutists to devise a rational and specific method for preventing and counteracting the effect of the cause. Methods of antisepsis were given early and careful attention, and the systems resulting have been of great benefit to the art of medicine. However, the drugs then studied were found unequal to the occasion, because of our inability to give them in strength sufficient to destroy the germs, and more particularly because these drugs possessed no specific antidotal power against the poison generated by the germ. As a new branch was added to chemistry, so one was added to therapeutics, which we may call bacteriological therapeutics.

Of the various methods studied, by which to combat the effects of the germ by the administration of the products of the germs, such as the use of extracts of the cultures and the extracts of the germs, serum therapy seems to promise most in its practical application. Grohman, in 1884, demonstrated that fresh serum exercised an attenuating influence upon anthrax bacilli. Fodor, in 1887, demonstrated that fresh blood would destroy this bacterium. The first application of this principle to therapeutics was made by Richet and Hericourt. In 1888 these French scientists showed that transfusion of the blood of a dog rendered immune to the "staphylococcus pyosepticus" into the peritoneum of the rabbit, ordinarily susceptible to the infection, rendered the rabbit immune to the germ. Richet and Hericourt then commenced to experiment with tuberculosis. They showed that tuberculosis in rabbits could be retarded by transfusion of the blood of the dog into the rabbit, and could be cured if the transfused blood came from a dog previously innoculated with tuberculosis. In 1891 they reported encouraging results from the use of this serum in man.

While we must award the honor of the first application of blood serum in therapeutics to Richet and Hericourt, the development and successful application of serum therapy is due Behring and his colaborers.

Behring's first contribution was made in 1890, and was the result of experimentation with tetanus. He and Kitasato reported having rendered a mouse, ordinarily extremely susceptible to tetanus, immune to the disease by innoculating it with the serum of a rabbit previously immunized. This led to experiments in the same line with a large number of diseases. From their results they concluded that an animal could be rendered immune to a disease by innoculation with the serum of another animal which had already acquired immunity. They found, however, that the serum of an animal naturally immune to the disease would not confer immunity on another unless the animal had been artificially immunized. This innoculation with the serum of the animal previously immunized was found to protect not only against infection with the germ of the disease, but also against intoxication with the toxine developed in culture and afterward injected into the body.

This discovery, coupled with the further one that an animal intoxicated with the poison of tetanus could be cured by innoculation with the serum of the immunized animal, led Behring to discard the theory in which he had previously believed; that the immunity depended on the presence in the blood of a substance destructive to the germ, or the bactericidal theory for the antitoxic theory, attributing to the immunizing or curative serum the power of destroying or neutralizing the toxine in a chemical sense. A still different theory, that of immunization, attributing to the serum the power of rendering the animal cells resistent to the toxines, now challenges those already mentioned.

Metchnikoff demonstrated that the serum exerted a preventive effect on animals which had never become infected, and accordingly advanced the opinion that the serum did not act by destroying or lessening the virulence of the germ, or by neutralizing the toxines, but by strengthening the animal's power of resistance to the disease. Metchnikoff believes the increase in the resisting power of the animal to be acquired by the influence of the serum on the phagocytes.

Whatever may be the manner of action of the serum, bactericidal, attenuating, antitoxic, or immunizing, serum treatment certainly has been proven in experimental diseases to have a constant and positive effect in counteracting disease. Against at least one disease of mankind it has been accepted as offering a specific, while it promises the same against many diseases. Did serum therapy promise no more than it has already accomplished in diphtheria, the discovery of Behring will be one of the most remarkable additions of a century, full of discoveries, to the records of medical history.

As the other serums are still practically in the experimental stage, I shall consider the anti-diphtheritic serum first and more exhaustively.

To Behring, Kitasato, and their co-laborers and Roux, are due preëminently the credit for the development of the serum treatment in diphtheria. Early in 1892 Behring and Kitasato published reports demonstrating the power, possessed in the serum, of immunization against the innoculation of diphtheria in animals, and of the cure of the disease when produced by innoculation. Roux, in the same year, suggested the use of the serum of the horse, as in the larger animals its strength could be increased and a more liberal supply obtained. The serum was first tried on man in the hospitals of Berlin in 1893, and Heubner made a report to the International Congress, held at Rome in March and April, 1894, of cases treated with the serum. In August, 1894, the serum was first placed on the market. In September of 1894 Roux made a report of cases to the Congress held at Buda-Pest. Both these reports showed a reduction in the death rate. During the four years intervening between Heubner's report and the present day this agent has been tested by the authorities of all civilized communities, and their reports show a reduction in the number of deaths from diphtheria, when considered relatively to the population and to the number of cases of diphtheria.

I shall refer only to the figures showing the reduction in the death rate from diphtheria in New York since the use of antitoxine in that city. The rate is given in relation of the deaths to the population and not to the number of cases of diphtheria, as I anticipate the comment that since the advent of bacteriological diagnosis many mild cases have been diagnosed diphtheria which previously would not have been so diagnosed, and the rate computed from the relation of deaths to cases would accordingly be decreased:

Years.	Estimated Population.	Deaths from Diphtheria.	Rate to 1,000 of Population.
1892	1,708,124	2,106	1.23
1893	1,758,010	2,558	1.45
1894	1,809,353	2,870	1.59
1895	1,877,195	1,976	1.05
1896	1,934,577	1,763	.91
1897	1,990,562	1,591	.80

The rate for 1897 is almost 50 per cent. of that of 1894, and the number of lives saved was 1,279. It is quite likely that a large number of the deaths were in cases in which antitoxine was not used.

The immunization of the horse consists in the introduction of the diphtheritic toxine into its circulation in gradually increasing doses, the filtered product of a seven days' growth of a pure and virulent culture of diphtheritic bacilli being generally used. The blood is drawn from the jugular vein under aseptic and antiseptic conditions, and the serum is tested until it is found to possess a high antitoxic power. On account of the great variation of the strength of the serum prepared under constant methods, a qualitative unit is employed in measurement. The unit is ten times the quantity required to protect a medium-sized guinea-pig, against ten times the dose of the toxine fatal to a similar guinea-pig.

Every time the serum is drawn from the horse its strength is measured. The improvement which has been made in the serum has been entirely in the increase of its strength, until at the present time a serum of 750 units to the cubic centimeter has been placed on the market. The serum loses strength gradually from the moment it is drawn, but the producers aim to make an allowance for the deterioration likely to take place in six months.

The dose of antitoxine is, for immunization, from 100 to 1,000 units, according to the age of the person; for the cure of the disease, from 1,500 to 3,000 units, according to the stage of the disease and the virulence of the attack. If no improvement in the course of the disease is noticed in from 18 to 24 hours, the dose should be repeated. During the early use of antitoxine, doses of from 500 to 1,000 units were given. These were too small and the results were by no means so satisfactory as since the use of larger doses. In all reports, the death rate increases uniformly with the reported delay in time before the use of the antitoxine.

Let statistics show what they may, that which appeals to the general practitioner, who meets a limited number of cases of diphtheria, is the rapid modification of the course of the disease in a case which, under previous methods, he would have expected to have been extremely severe in its course. The change in the general and local symptoms may be noticed in from 12 to 24 hours. The temperature is reduced, the pulse becomes slower and stronger, and the nervous symptoms are modified. The local changes are quite marked, the membrane ceases to spread and soon begins to loosen, the nasal discharge becomes less and the patient soon becomes able to breathe through the nose. In laryngeal cases the signs of inflammation and stenosis soon subside, the membrane loosens rapidly, and in intubated cases the tube may be removed very much earlier than under previous methods of treatment.

Urticaria and pain in various joints often follow the serum treatment in diphtheria. I have noticed similar results from other serums, and they are quite likely due to the serum itself and not to its modifications.

Three or four deaths have been reported to have followed injections of antitoxine. In these cases the evidence has not been sufficient to say that antitoxine was the cause of death. There is also reported one death which occurred suddenly while the physician was preparing the syringe to inject the serum. Fright from the diagnosis of diphtheria, shock from the insertion of the needle, the entrance of air bubbles into the circulation, and the carbolic acid used to preserve the antitoxine have been cited as possible causes of death in these cases.

Deaths resulting from affections of the heart and kidneys during the course of the disease or in convalescence, post-diphtheritic paralysis and albuminuria which occur as sequelæ to cases in which antitoxine has been used, can by no means be attributed to the treatment, as they were found in a much larger percentage of cases treated under previous methods.

A remarkable reduction of the death rate in cases requiring intubation or tracheotomy has followed the introduction of antitoxine. This is due to the fact that it is not necessary to retain the tube in the larynx for so long a time, and that the membrane does not extend to the bronchi. No claim is made for the anti-diphtheritic serum in overcoming the effects of the streptococcus in mixed infections or in streptococcus infection without diphtheritic infection.

The use of antitoxine for immunization has been very valuable. Epidemics in institutions and in barracks have been checked and the spread of the disease through the family of a patient may be prevented. The early use of antitoxine prevents the further development of the germs in the throats of diphtheritic patients. The supply of the infecting agent is accordingly decreased and the likelihood of the spread of the contagion is, therefore, much less than under the old regime.

Before proceeding to the consideration of the other serums, I shall summarize briefly with reference to anti-diphtheritic serum:

1. Antitoxine has been proven a specific against experimental diphtheria.

2. Antitoxine is believed by the most experienced scientists and clinicians to be a specific against human diphtheria.

3. Antitoxine must be used early.

4. If in doubt as to the diagnosis, it is more conservative to give the patient the benefit of the doubt by the early administration of the drug, especially during the prevalence of diphtheria in a community.

5. Antitoxine must not be blamed for failure where too small doses have been used.

6. The physician who now refuses to use antitoxine defies the teachings of the most scientific men of the world and assumes an immense responsibility which he should not expect a fellow physician, who believes in the use of antitoxine, called late in consultation, to share.

Tetanus has been very closely studied in the efforts of bacteriological therapeutists to develop an anti-tetanic serum. Roux and Vaillard, as a result of their studies, have reached the following conclusions:

1. The antitoxic serum will surely prevent tetanus, even in very small doses, when it is injected before the tetanus toxine.

2. When the serum is injected at the same time as the toxine a local tetanus is usually seen, even when the quantity of the serum injected is very great.

3. When the serum is injected after the toxine, but before the appearance of any tetanus symptoms, there is always a local tetanus, and the dose of serum necessary to prevent death is much greater than when it is injected soon after the infection; after a certain time has elapsed, varying with the animal affected, prevention is not possible even with large quantities of serum.

4. Tetanus is more or less rapid in its onset, and, therefore, more or less difficult to prevent, according to the place where the injection of the toxine is made; innoculations in the thorax and abdomen are more rapidly fatal than those made in the extremities.

5. When the infection is produced by the tetanus bacillus developing in the tissues, the prevention depends upon the quantity of the serum injected, and the time which has elapsed from the moment of injection of the virus to that of innoculation of the serum. It fails most often when the animals are innoculated in a manner to have a rapid tetanus, but it succeeds in the mild infections. In these cases prevention is not always absolute, and if the focus is not removed the disease which appears to be arrested may resume its course and death may then occur after a very long time.

Although results in the treatment of tetanus in man have not been so good as was hoped, they have been sufficiently favorable to justify us in using the serum when it can be obtained. The local focus, however, must always be removed. The fact that prevention can be accomplished by so small a dose, and cure scarcely at all, suggests the use of the serum for prophylaxis in suspicious wounds.

Immunization against cholera by means of serum innoculations, has been practised in India, and very favorable reports have been made. Immunization and cure in experimental cholera have been accomplished.

Tuberculosis was the first disease in man in which serum therapy was applied. Much work is now being spent in the attempt to secure a serum which will be effective against this disease. The T. R. serum of Fisch has lately been attracting much attention, but reports vary considerably and the evidence in its favor is not very decisive. I have observed its use carefully in a few cases, in which the results were by no means encouraging. In experimental typhoid fever, serum therapy has been successfully applied, but I hope more from the purification of water supplies than from immunization from serum innoculation in man.

Marmorek's antistreptococcic serum has been quite extensively used, but reports as to results are by no means satisfactory. The field for the use of such a serum would be very great, and it is certainly to be hoped that success will be obtained. Such a serum would be useful in the treatment of erysipelas, puerperal fever, and certain scepticemias, as well as in the streptococcic complications of tuberculosis, diphtheria, and scarlet fever. Promising results have been reported from experiments with small-pox serum.

Drs. G. and F. Klemperer have employed anti-pneumonic serum in the treatment of pneumonia in man, with promising results. This treatment has been tried by others and encouragement is given of the development of an effective anti-pneumonic serum.

The antitoxic serum for yellow fever has been reported to be a success, several reports of cases treated with the serum giving a considerably reduced percentage of deaths. It has also been advantageously used for prophylaxis. Should the expectations of those having experimented with the serum be realized, it may play a very important part in the present war.

Ehrlich, in 1891, demonstrated the antitoxic qualities of the blood serum of animals immunized against the vegetable poisons of abrin. This demonstration may be of little service to practical medicine, but it is a link in the establishment of the antitoxic theory of serum therapeusis.

To us, living in a country where death from the bite of a snake is a rare occurrence, the production of an anti-venomous serum has not the practical interest that it has for the inhabitants of India, where 20,000 people die annually in consequence of the bites of venomous snakes. The secret of obtaining immunity against snake bites by means of artificial treatment with the poison has probably been possessed by the snake charmers of India for ages. Decided success in the treatment of snake bite in India, by means of the anti-venomous serum, is reported.

Although the profession has for ages been satisfied with quinine and mercury as specifics respectively against malaria and syphilis, it has not been possible to trace any relationship between the disease and the remedy. Accordingly therapeutists have had no basis for reasoning in their efforts to extend the field of specific medicine; but with their faith in quinine and mercury, they have hoped to meet remedies which would be as effectual in the treatment of other diseases. We have been told that veratrum viride would abort pneumonia; that tincture of chloride of iron would certainly cure diphtheria; that some special drug would exert a peculiar beneficial influence in each of the various diseases, and that Woodbridge had robbed typhoid of its terrors by the special manner of administration of a combination of drugs. The profession has tried these remedies, but the great majority of its members lack faith in them as specifics in therapy.

Physics with the microscope, bacteriology and chemistry with their immense force of learned devotees, are laboring diligently to complete the system of therapeutics, the foundation of which is the successful treatment of the various germ diseases in animals innoculated for experiment. The corner-stone of this system, the serum treatment of diphtheria, has already been firmly set. These scientists have a basis for reasoning. They are tracing the relation of the remedy to the disease. Let us, as clinicians, give our assistance by intelligent application of the principles the scientists establish and by careful observation of the results, for certainly we have reason to hope for many and good things from this revolution in therapy.

212 J street.

SURGERY OF THE HAND.

By B. S. Nourse, M.D., Sacramento, Cal.

Read before the Sacramento Society for Medical Improvement.

The great importance attached to major surgery, its possibilities, and wonderful results have so imbued the minds of many surgeons that the care of minor injuries has been overshadowed, and the careful attention that should be paid them is often neglected. For major operations preparations are made most exacting as to asepsis. The field of operation must undergo a thorough sterilization, the instruments also, and the hands; in fact, everything connected with the operation. But when it comes to minor operations much less care is exercised. Often there is carelessness as to details; the hands are not sterilized, nor the injury made clean and aseptic.

The dividing line between major surgery and minor surgery is very small; in fact, it amounts to almost nothing. Since the days of asepsis and antisepsis the dangers attending a major operation have been so reduced that a laparotomy can be as safely performed as an amputation of a finger.

The hand is one of the most important members of the body on which surgical operations are performed. On it depends man's usefulness and ability to perform the duties of his occupation or profession. From time immemorial it has always been held in great esteem. The coat of arms of the surgeon's guild of the Middle Ages consisted of a hand representing the art of chirurgie, a word derived from the Greek words signifying the hand and work.

The ancients, and even people in later years, believed that the hand possessd a force within itself capable of intelligent action; witness, for instance, the execution and agility of the fingers while playing on various instruments, the tactile sensibility of the blind, and the skill of the artist. Suffice it to say, that the hand is the faithful servant of the mind, whether it be in the direction of music, art, the trades, or professions; and the more attentive the mind, the more obedient and skilful the hand. Without the hand many would be seriously crippled and become useless to society. It is, therefore, our duty, in case of injury, to treat it so that its functions may be restored as nearly as possible, even to the removal of an offending member.

I shall not go into the details regarding the anatomy of the hand, for it is well known to all of you. There is one point, however, that I wish to touch upon, a point that has an important bearing on the surgery of the hand.

The carpal bursa, so-called, is a large synovial sac which contains all the flexor tendons as they pass beneath the anterior annular ligament. It extends upward to about half an inch above the annular ligament, and downward to about the middle of the metacarpal bones, where it ends blindly about each pair of tendons with the exception of those of the thumb and little finger. Here the diverticulum becomes consolidated with and communicates with the sheaths of those tendons. With the sheaths of the tendons of the other three fingers the bursa has no communication. The bursa then extends from the end of the thumb to above the wrist, and again to the end of the little finger.

From this arrangement we can readily perceive how in an infected wound of the thumb or little finger, the inflammation can extend up the arm clear to the axilla, the arm being swollen and full of pus, which has a tendency to get between the superficial and deep flexors of the forearm. We can also readily understand how much more dangerous is an injury to the thumb or little finger than to the other fingers.

The formation of the bursa also explains the compound palmar ganglion, an hour glass swelling, the constriction at the annular ligament with a swelling in front of the wrist and another in the palm.

of the hand, the contents of one swelling capable of being squeezed into the other.

Before going into the treatment of the various affections of the hand, I will mention a few points that are of the utmost value in determining a favorable issue of an injury.

Cleanliness is of the first importance. It is almost the inevitable rule that hands which come to us for treatment are dirty. Generally they are besmeared with grease and oil and dressed with a filthy rag. Often their fellow-workmen dress the wound with a tobacco quid, varnish, shellac, etc. The first indication is to scour these hands with soap and brush until they are absolutely clean before they are subjected to any treatment or dressing.

The next point is with reference to asepsis and antisepsis; as much care should be exercised in these respects with the hands as with any other part of the body, and yet it is often neglected. Time and time again have we seen operators and dressers, after handling a septic case, begin work on a fresh non-septic wound without sterilizing their hands. The Railroad Hospital at Sacramento has two dressing rooms, one for septic and the other for clean non-infected cases, which are never permitted to enter the first named room. The operator or dresser always sterilizes his hands well before undertaking any work in the aseptic room. The result of this arrangement has been highly satisfactory, almost every case healing promptly by first intention.

The next important point is rest. This does not signify the rest obtained from splints alone, but rest from physical work. In order to heal well any injured part must have rest. This is easily obtained in cases which require to be in bed for several weeks after an operation; but in wounds of the hand the patient minimizes his injury, he is able to be about and anxious to go to work in order not to lose any more time than possible. Patients will say that their work is light, or that they can work with one hand, etc. Some are obstinate and do go to work before the injury is healed, but they generally suffer from it. They cannot appreciate the fact that physical exercise, however remote from the seat of injury, will increase the inflammatory processes in the wound, and either retard healing or prevent it altogether.

In taking up the treatment of the various injuries of the hand, I shall not dwell minutely upon them, but simply touch upon their salient phases.

It is often quite a problem whether or not to amputate a finger. Generally it is better to amputate than to leave a member that will be useless in itself and an impediment to the functions of the other fingers. In cases of doubt we must be guided by what will least interfere with the work of the rest of the hand. When amputating at the metacarpo phalangeal articulation, one of two methods must be adopted, depending upon the occupation of the patient. If he is a laborer, needing all possible strength in his hand, the head of the metacarpal bone is to be left intact. If he be one that toils not with his hands, one who does no physical labor, the head of the metacarpal bone should be removed. This secures for the patient a hand much more symmetrical, the loss of the finger being not so apparent. In amputation of the fingers, the index finger and the thumb should be preserved as far as possible, for they are both exceedingly useful members, and much can be accomplished with even a small stump.

In regard to luxation, that of the metacarpal bones is very rare, but it is common at the metacarpo-phalangeal articulation, the luxation backward of the first joint of the thumb on the metacarpal bone being the most important. This latter is frequently the subject of mistake; the surgeon thinking it to be anterior instead of posterior. It is hard to reduce because the dislocated bone becomes entangled in the surrounding structures, viz: the flexor brevis and extensor pollicis, the extensor secundi internodii policis, and the capsule.

This dislocation may be reduced, if recent, in two ways: First, by extreme flexion and traction in the line of flexion; second, by pulling thumb backward as far as possible, *i. e.*, traction in extreme extension. Luxation forward sometimes occurs and reduction is accomplished in the same way as in the posterior luxation. Reduction of dislocations of the fingers is not so difficult. It can usually be done by means of flexion and extension with traction.

Fractures of the metacarpal bones and phalanges are common. The first indication is to reduce the tumefaction and then apply splints and extension when possible. A very satisfactory way of accomplishing this is to apply a long splint on the anterior surface of the forearm and palm, extending beyond the tips of the fingers. Extension is secured by attaching a strip of adhesive plaster to each side of the fractured finger, or finger articulating with the fractured metacarpal bone, the strips running longitudinally with and attached to the distal fragment of the finger. Each strip has a free extremity to which a rubber band is attached and fastened to the end of the splint. The degree of extension can be regulated by tightening or loosening the rubber band. For fracture of a metacarpal bone a small dorsal splint over the fracture is often required in addition. When a finger is broken and extension is not permissible, any apparatus, such as veneering, or binder's board, that will keep the fractured parts in apposition and secure rest for the finger will suffice.

Incised and lacerated wounds should be made thoroughly clean, washed carefully with an antiseptic solution and then put into a dry dressing. Great care should be taken that they do not become infected. The dressings should not be frequenly changed, probably once in two or three days, or even longer, provided the wound is in good condition. Incised or lacerated wounds should be sutured except those in which there is an element of contusion added. In these the contused tissue is apt to die and slough; pus forms and not being able to get out through the wound, will invade contiguous parts and cause trouble.

Infected wounds are a source of great annoyance, both to the surgeon and to the patient, and are particularly dangerous when they occur in the thumb or the little finger. Here a small infected wound, in a short time, may involve the whole hand and even the arm, and in spite of the best care, do so much damage as to necessitate amputation or else leave the hand stiff and in a useless condition. Infected wounds should be laid open freely and drainage inserted. In case the infection extends to the forearm, free incisions should be made down to the space between the superficial and deep flexors, the pus washed out thoroughly with an antiseptic solution and drainage inserted.

Phlegmona of the hand should be treated in the same way. The felon or whitlow is another common form of infected wound. The treatment is the same as in other infected wounds.

All infected wounds, after incision and cleaning, should be enveloped in a hot lotion dressing, for which the lead and opium is the best. This should be changed frequently and the wound washed out thoroughly each time.

Contusions of the hand or fingers are best treated with the lead and opium dressing, applied hot, covered with oiled silk or muslin, and changed frequently.

The treatment of burns consists in keeping them perfectly clean. Sloughs should be removed as soon as they form, the surface washed with a mild antiseptic solution, as boric acid, and then covered with a mild dressing, either boric acid or listerine. A weak carbolic acid lotion is recommended, both for its analgesic effect and for its antiseptic properties. Under this treatment, burns heal up very readily.

In recent years carron oil has fallen into disrepute; it certainly does not conduce to cleanliness.

The palmar arches are sometimes cut and the hemorrhage is hard to stop on account of the difficulty in reaching the arteries. If the superficial arch is cut and the wound be extensive, the arteries can generally be found and ligated. If the wound is simply a puncture, systematic pressure may be used, but here care should be taken lest sloughing results from the compression. The wound may also be enlarged and ligatures applied to both ends of the severed artery, if it is possible to find them. In case the deep arch is severed, it is advised to resect the upper part of the third metacarpal bone, and ligate there. Failing in these attempts the brachial artery should be ligated; the ligation of the radial and ulnar will not suffice, on account of the anastomoses of the carpal branches.

A tendon may be divided and unless united there will be loss of function of the muscle. In such a case the wound should be opened and the tendon united with catgut.

A ganglion is a cyst formed in connection with the sheath of a tendon, and may or may not communicate with an articular cavity. It is treated in several ways: The old fashioned method was to strike it with a book, rupturing it subcutaneously. Another plan is to aspirate it and inject iodine into the sac to bring about obliterative inflammation. Aspiration and scarification is another way of accomplishing the same end. The best and most satisfactory method is to dissect out the sac entirely.

Tenosynovitis, an inflammation of the tendons and their sheaths, is best treated by means of blisters.

A finger may be drawn in, due to the contraction of the palmar fascia. This is called the Dupuytren finger. The treatment is first by massage, and if that does not affect a cure, it will be necessary to loosen up the fascia.

The condition of syndactylism is relieved by two methods: (1) Cutting down between the fingers and skin grafting. (2) Making flaps which will intervene between the fingers.

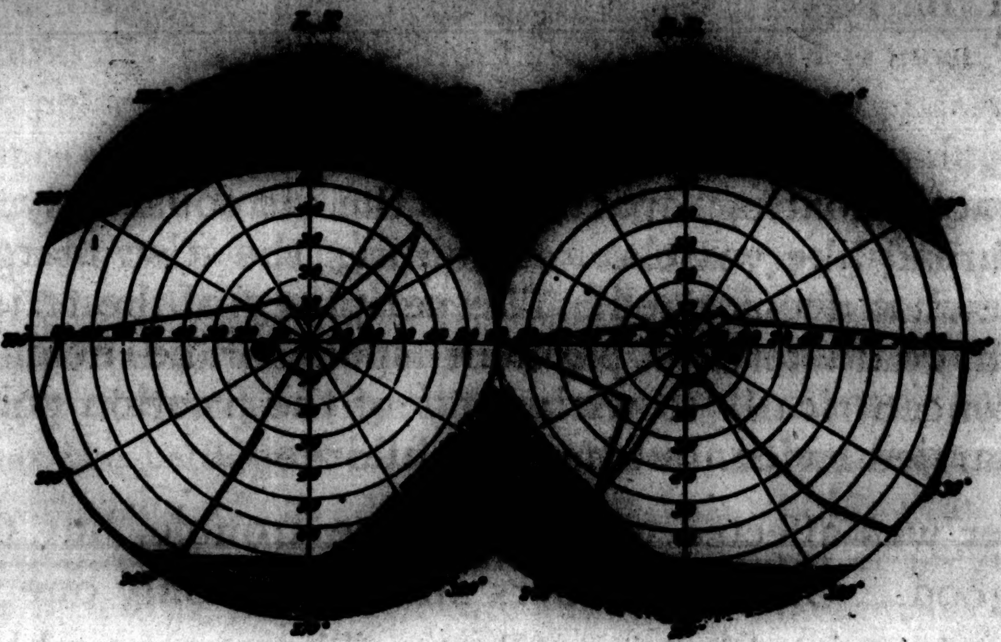
In conclusion, let me emphasize the fact that injuries of the hand should not be slighted, and that cleanliness and antisepsis should be rigidly observed. Infection will creep in, in spite of the best care, but in the majority of cases the adoption of these principles, combined with rest, will obviate trouble and affect a speedy cure.

RETINITIS PIGMENTOSA—HUSBAND AND WIFE.

By A. B. [illegible], Ph.B., M.D., [illegible]

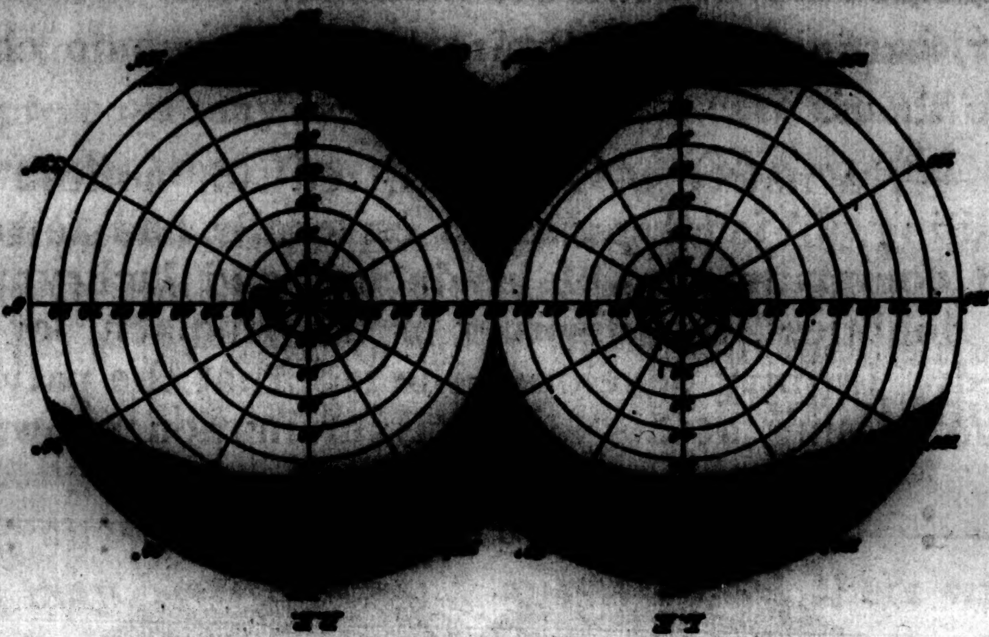
The following cases, while not of an unusual type, are interesting because of the fact that these two people, affected by the same disease, met, formed an attachment and married. Unfortunately for science, but fortunately for future generations, no children have been born to them.

H. S. A——, a native of Missouri, æt. 40, noticed his sight is gradually failing. Visual power is especially bad toward evening. The patient complains also of headaches and lachrymation. The former due, doubtless, to a disorder of the stomach, for which he is being treated. Inquiry developed the fact that the patient is unable to see objects passing at his side. Examination shows the field of vision greatly shrunken in all directions except small sectors in the lower temporal and upper nasal quadrants. The ophthalmoscope shows numerous floating opacities in the vitreous body, a pale, waxy, filled-in appearance of the disc; slender, thready vessels and numerous bone corpuscle pigment spots about the periphery of the retina. The vision is reduced to $\frac{20}{50}$ in the right eye and $\frac{20}{200}$ in the left.



The presence of vitreous opacities would at once arouse a suspicion that the disease is one of those forms of retino-choroiditis simulating pigment degeneration of the retina in its ophthalmascopic appearance, but the absence of any signs of specific disease and the family history establish the diagnosis. The patient's father had symptoms of the same character, and doubtless suffered from the same troubles. A paternal uncle and several cousins on that side of the family, were likewise victims of this malady. The patient had eight brothers and sisters, of whom only one, a sister, was affected. There was no blood relationship between the parents. The patient mentioned that his wife complained of a similar trouble, and, at my request, she was brought for examination. The history is as follows:

Mrs. H. S. A——, æt. 29, a native of [illegible], complained of poor sight, growing much worse toward evening. Has noticed ever since early childhood that her sight has been worse than that of her companions when in a poorly lighted apartment. Her vision by ordinary daylight was found to be [illegible]. The examination reveals posterior polar cataracts, floating opacities in the vitreous body, pale woolly discs and thread-like vessels. Adjoining the disc margin, the choroid is somewhat decolorized. The periphery of the retina is thickly strewn with characteristic pigment spots. The field of vision is shrunken concentrically to within 15° of the fixation point. Patient has been married twice, but has no children.



Her father was affected with the same trouble, but the mother's eyes were good. Of her brothers and sisters, only one was affected so far as patient is able to recollect. There was no blood relationship between her parents.

The two patients denied the existence of any ties of consanguinity and stated that they met in a railway station, where a discussion of their symptoms awakened a mutual interest, which resulted in marriage.

533 Sutter street.

DEPARTMENTS.

OBSTETRICS, GYNECOLOGY AND PEDIATRICS.

By Wallace A. Briggs, M.D., Sacramento, Cal., and

Wm. Fitch Cheney, B.A., M.D., Adjunct to the Chair of Obstetrics and Diseases of Women and Children, Cooper Medical College, San Francisco, Cal.

An Accoucheur's Responsibility.—A curious case came on for trial a few days since at the Aylsham County Court, when a blacksmith claimed £2 10s for alleged breach of contract from Mr. W. H. Bansall, a practitioner of that town, on the following grounds: Mr. Bansall had attended the defendant's wife at her confinement, which appears to have been a difficult one. He saw her on each of the three following days and then said he should not call again unless requested. He was sent for the same evening, but as he was at the time suffering from influenzal cold, he was unable to [illegible] instead. The plaintiff [illegible] sent for another [illegible], and he then sought to recover from Mr. Bansall the amount he had had to pay the substitute. It was given in evidence that it was usual for a [illegible] to pay these [illegible] after a confinement, but this Mr. Bansall was admitted to have done. The patient went from bad to worse and ultimately died, but no blame could be attached to Mr. Bansall on this account, because no time was lost in obtaining the services of a substitute. The Judge decided that there had been no breach of contract and gave judgment for the defendant.—*Medical Press and Circular*.

Treatment of Amenorrhea.—LEUF states that amenorrhea may be caused by an under-development of the uterus, or its atrophy, or due to some neurotic influence. Cessations due to wasting diseases are conservative, the flow simply stopping because nature cannot permit the loss of blood in view of the other strain upon the system. An atrophied uterus requires the same treatment as an under-developed one, though it is less likely to respond to stimulation if it has existed for a long time, for retrograde changes are generally not as easily reversed as natural development is stimulated. The flow is most readily stimulated by the bipolar application of the long, fine wire, secondary faradic coil two or three times a week for from two to six months, continuing for 10 or 15 minutes at each sitting. It has also been accomplished by the passage of a similar current through the pelvis from the sacrum to the hypogastrium, the anode being behind. When the flow is simply scanty, the galvanic current is better, the cathode being in the uterine cavity and the anode upon the abdomen, with a current-strength of from 50 to 75 milliamperes. The leading fact should not be forgotten that the cathode increases circulation and nutrition, and that the anode has the opposite effect. W. E. FOTHERGILL claims that senecio will not cause abortion, or in any way influence the course of pregnancy. The practical utility of a drug which will cure functional amenorrhea, but will not interfere with pregnancy, is, of course, obvious.—*Monthly Cyclopedia—Clinical Journal*.

Perforation of the Uterus during Curettage.—DR. GEO. W. ELDER reports the following cases (*Medical Press and Circular*) which, as he says, curiously enough happened within a few weeks of each other: "The first occurred in the person of the wife of a medical man in the country, who was suffering from persistent metrorrhagia after a premature birth, which rest and the usual medical remedies had failed to check. The patient was a young, healthy woman—the mother of two children—and with no record of previous uterine mischief. Ether was given by my late colleague, Dr. Truman, and, as is my custom, I examined the uterus bimanually to ascertain its size, direction, and freedom from tubal or ovarian inflammatory mischief likely to contraindicate instrumental interference, and then dilated with Hegar's dilators. This was quickly and easily done and a blunt curette introduced, when, to my astonishment, it passed in without any sensible obstruction until all but the handle had disappeared A sound penetrated in the same manner, and the point of it could distinctly be felt under the abdominal parietes. Beyond packing the uterine cavity and vagina with iodoform gauze, nothing further was done, and to my relief convalescence was smooth and uneventful. The value of dilatation alone in such cases was shown by the patient having no return of the uterine hemorrhage. A few weeks afterwards Dr. Huthwaite, lately of Sandiacre, near Nottingham, and now of Skipton, asked me to curette a young woman for post-puerperal [illegible]. Coming so soon after the other, even more than the usual care was taken in dilatation, but, just as in the previous case, the curette had barely been used before the same accident occurred. To prove the matter beyond a doubt, a piece of bowel presented in the cervical canal. This I replaced and packed the uterine cavity and vagina, as before, with gauze. This patient also seemed none the worse for the perforation and recovered well. In both of my cases I am disposed to believe that the damage was done by the dilator and not by the curette, inasmuch as curettage had barely commenced before the perforation declared itself. Curettage has now become so well established in the treatment and diagnosis of intrauterine troubles, that one is apt to lose sight of its dangers and adopt it, when other and safer procedures might be substituted. It is well known that the uterine walls are softened and thinned by recent abortions or labors at term, by sepsis, and by cancerous, sarcomatous, and tuberculous degeneration—conditions most exposed to injury from instruments—and it is just in these cases, whether for the removal of decidual remains or the clearing up of diagnostic doubts, that digital exploration is of service. Adopting this method would greatly limit the need for curettage, and in the latter event the risk of accident is much diminished by a preliminary bimanual examination of the parts to ascertain the condition of the appendages and the direction of the uterine body.

Puerperal Eclampsia.—Baron and Castaigne have carried out (*Arch. de Med. Expér.*), an important series of experiments with a view to proving the fetal origin of puerperal eclampsia. Within recent years pathologists have come to the conclusion that puerperal eclampsia is not due to maternal, renal, or hepatic diseases, at any rate wholly, but that absorption of toxic products from either the fetus or its annexæ, as to whether the fetus or the amnion is most to blame, forms the subject of the writers' investigations. They find that certain substances injected directly into the fetus or the amnion are rapidly absorbed by the maternal organism, provided the fetus is living, but much more rapidly from the fetus than from the amnion. From this it would seem that the fetus secretes certain toxic substances into the blood and amniotic fluid. What these toxins are is to form the subject of a subsequent investigation. Secondly, if the fetus be dead, substances injected into either amnion or fetus do not seem to pass into the maternal circulation. This would seem to throw considerable light upon the various phenomena of eclampsia, and especially as showing that the death of the fetus is followed by cessation of the convulsive seizure.—*British Medical Journal.*

SURGERY AND ANATOMY.

By T. W. Huntington, B.A., M.D., Surgeon Southern Pacific Company's Hospital, Sacramento, Cal., and Geo. B. Somers, M.D., San Francisco, Cal.

Hernia Treated by the Injection Method.—W. W. Browne reports six cases of hernia treated by the injection method. Five were cured. The formula used was creosote m. xv, morph. sulph. gr. ii, glycerite of tannin ʒi, witch hazel ℥iii (reduced by distillation to ℥i). Dose, from 5 to 10 minims. The mode of procedure is as follows: Having placed the patient in the recumbent position, and the hernia being returned to the abdominal cavity, the left index finger is invaginated in the scrotum and the point pushed well into the canal. The syringe, a common hypodermic with a somewhat longer needle than the ordinary, is then taken in the right hand; using the left finger as a guide, the needle is thrust through the tissues just beyond the tip of the finger, and slightly elevated toward the opening, and the fluid deposited. This is for the oblique hernia; for the direct form, inject on the border or over the external ring. This operation should be repeated at intervals of four to six days, six or eight times, or as often as the case may demand. After the injection the parts should be slightly kneaded.—*Atlantic Medical Weekly*, September 10, 1898.

Abdominal Anus after Operations for Cancer of the Rectum.—Kraske always makes a preliminary colostomy by Maydl's method. The advantages are: First, that before the operation one can empty the upper bowel completely and disinfect the lower bowel partly through the natural and partly through the artificial anus. It is impossible to disinfect or even to unload the bowel prior to amputation of the rectum, even after days or weeks of effort. Secondly, an abdominal artificial anus is very much more under control, and can be cleansed very much better than a sacral anus. One can wear a belt or girdle as tight as is necessary, both to prevent undue protrusion and to prevent the escape of the feces. Most of the cases with such an artificial anus have the bowel emptied spontaneously once or more commonly twice a day, and at almost as regular hours as by the normal rectum.—*Louisville Journal of Surgery and Medicine*, September 18, 1898.

Treatment of Septic Peritonitis.—The following points are taken from an article in the *Boston Medical and Surgical Journal:* In the course of the operative treatment the bowels are allowed to escape from the abdominal cavity into hot towels held in the hands of assistants. If the distention is such that their return is impossible, the ileum is opened to allow the escape of gas and feces. The openings are closed by Lembert sutures. The cause of the peritonitis is then removed If it be an appendix or tumor, it is extirpated. If it be a perforation, it is sutured. The intestines and the cavity of the peritoneum are thoroughly irrigated with hot normal salt solution at a temperature of 110° or 112° F. or over. A considerable amount of the salt solution is allowed to remain in the abdominal cavity for the purpose both of stimulating the heart and of favoring intestinal drainage. Sulphate of magnesia is injected through a hollow needle attached to a large aspirating syringe into the small intestine at a point as high up as possible in the jejunum or ileum. A saturated solution containing between one and two ounces of salt is used. The needle puncture is closed by a Lembert suture. The peritoneal cavity is drained by four or more strips of sterile gauze thread in different directions among the intestines, or other forms of drainage are used. The abdominal wound is but partly closed by sutures. The edges are not closely drawn together, but partially so by silkworm gut sutures, between which and the intestines is placed a compress of gauze.—*Columbus Medical Journal*, October 18, 1898.

OPHTHALMOLOGY, OTOLOGY AND LARYNGOLOGY.

By Wm. Ellery Briggs, M.D., Sacramento, Cal.

Submucous Operations on the Nasal Septum, with Attempts at Membrane Grafting.—Dr. Thomas A. De Blois, after observing a case of perforation of the septum from the operation of removal of a septal spur, attempted to transplant healthy mucous membrane on the ulcerating surface, with considerable success. This case led him to attempt to operate for the removal of such [illegible] in such a way as not to destroy the normal mucous covering of the cartilage. For this purpose he secured some old-fashioned dental instruments with long handles (principally those used for removing tartar from the teeth), which were remodeled and ground so as to make knives and gouges of such various shapes that would suit the shapes of various spurs which were to be stripped. The author uses a very thin saw with a probe point. To remove the membrane before using the saw, the author makes a vertical incision of the required length; then with one of the flat instruments the membrane is separated from the cartilage or bone, working from below upwards. Some times it is necessary to cut out to give more room for the play of the saw. The spur is frequently of such shape that it is necessary to make the primary incision at the bottom, and then peeling upward, thus leaving a flap hanging. After the membrane is well stripped away, the spur is sawed off from below upward, being careful not to cut the flap off. It may be necessary to finish cutting with forceps. After cleansing well, the flap should be plastered down with collodion. Healing, of course, is much quicker than when the surface is left to granulate. One of the disadvantages of the operation is that a "knob" is often left at the upper part; if one tries too hard to obviate this, the flap may be cut through and all the trouble is for naught. Some cases do remarkably well, but occasionally the flap sloughs. The spur can occasionally be advantageously removed by a side-cutting burr and the dental engine. The advantages of this method of operating are that the wound is covered with healthy mucous membrane and heals much quicker, and the danger of a perforation resulting is much less than by the usual methods.—*New York Medical Journal*, October 8, 1898.

Holocaine in Ophthalmic Practice.—DR. JAMES HINSELWOOD gives his experience in the use of holocaine in ophthalmic practice in the place of cocaine. The chlorohydrate of holocaine takes the form of white needles, slightly soluble in cold water, but more soluble in warm. Its aqueous solution is neutral, and undergoes no change by prolonged boiling. The following is a brief summary of the facts observed after instillation of a few drops of a 1 per cent. solution: (1) Complete anesthesia of the cornea and conjunctiva is produced in from 15 to 30 seconds after instillation. (2) Anesthesia lasts about 10 minutes. (3) There is immediately after instillation a slight feeling of burning, which rapidly passes away. (4) There is produced shortly after instillation a slight hyperemia of the bulbar and palpebral conjunctiva, which rapidly passes away. (5) There is no alteration in the size of the pupil. (6) There is no disturbance of accommodation. (7) There is no alteration in the tension of the eye. (8) The corneal epithelium is not changed in the slightest, but retains its normal appearance. In short, to put it concisely, holocaine seems to have no effect upon the eye other than to render it anesthetic. Herein lies its advantage over cocaine, which causes conjunctival anemia by constriction of the vessels, dilatation of the pupil, and often desiccation of the corneal epithelium. Another advantage is its rapidity of action.—*British Medical Journal*, September 3, 1898.

Fatalities from Chloroform Administration for the Removal of Adenoids. MR. WYATT WINGRAVE, having paid special attention to the influence of chloroform in the fatalities during its administration for the removal of adenoid vegetations, has collected a series of 17 deaths attributed to chloroform, which was administered for removal of adenoids and enlarged tonsils. At the Central

London Throat and Ear Hospital only nitrous oxide has been used for this operation since [illegible]. Since the adoption of this anæsthetic it has been administered in nearly 3,000 cases without a single fatality. The [illegible] that the child has impaired breathing capacity makes the use of chloroform particularly dangerous. Children with adenoid vegetations also have, as a rule, [illegible] constitutions, which makes them less resistant to the depressing effect of chloroform. The narcosis of nitrous oxide is of sufficient duration to allow an expert to remove both the faucial tonsils and adenoids from one administration.—*Medical Press*, August 10, 1898.

DERMATOLOGY, SYPHILIS AND VENEREAL DISEASES.

Lupus Treated with Roentgen Rays.—Dr. J. Rudis-Jicisky (*Amer. X-Ray Jour.*, Oct., 1898), after treating a number of cases of lupus with Röntgen rays, in which very favorable results were obtained, has decided that the Röntgen rays constitute the best means for producing artificial inflammation, and converting unhealthy ulcerations into open healthy granulations. He reports the two following cases: First case was one of lupus erythematosus on the left leg, characterized by the appearance of pink patches covered by yellowish adherent scales. Having tested the tube with the screen, to see that it was in working order, and using an 8-inch coil, a series of short exposures were made. The healthy tissue was protected with stanoil, and the tube was placed at a distance of from 15 to 18 inches. At first there were traces of brownish discoloration of the skin. After the first application the infiltration began to diminish Later, general inflammatory action was established, and the unhealthy ulcerations assumed the appearance of healthy granulations. The patient was completely cured. Second case: Lupus vulgaris on the right side of the face, which began with the appearance of yellowish deep papules and gradually extended, forming irregular ulcerative patches. The Röntgen rays were used with marked beneficial effect.—*Medical and Surgical Review of Reviews.*

A Photographer's Skin Disease.—Dr. Leopold Freund has called attention to an affection of the skin of the fingers which in recent years he had observed in photographers. In a well marked case the flexor surface of all the fingers of both hands was the seat of a diffuse dark blue-redness, which disappeared under the pressure of the fingers. The skin felt hard and thickened, and the fingers looked larger than normal. The appearance of the skin was as if the hands were lacquered, and both hands felt cold and dry to the touch. This change extended as far as the wrists; the backs of the hands were slightly affected. The nails and the secretion of sweat were not affected. In the early stage of this affection there is a feeling of numbness and anesthesia; later the fingers become stiff and are the seat of a disagreeable feeling of tension. There is no itching or pain. The cause of this peculiar affection is believed to be metol, a sulphate of metyl-para-amidophenol, which is now largely used for developing negatives. The condition is similar to what has been described as local asphyxia of the skin, and Dr. Freund emphasizes the peculiar varnished-looking appearance of the skin, which is produced by contact with this substance. Recovery takes place spontaneously in two or three weeks, when the workmen abstain from touching metol, the cure being hastened by the use of the ordinary ointments and plasters employed for an inflammatory condition of the skin.—*British Medical Journal.*

MATERIA MEDICA AND THERAPEUTICS.

By Wm. Watt Kerr, M.A., M.B., C.M., Professor of Clinical Medicine, University of California, San Francisco.

[illegible] of Serum Therapy.—From the recent interest taken in the various investigations regarding serum therapy, each authority thinks himself justified in giving an account of his own experience. This week Bernheim treats us to a long discourse on the subject, of which the following are his results and inferences: The best method of distinguishing the miscellaneous microörganisms in diphtheria is by the microscope, and these may be subsequently confirmed by 'plate cultures. To diagnose a mixed infection in the throat, the examination of the mucous membrane, as it is generally thrown off, is not a safe practice in order to distinguish streptococci of a pathological character. It is better in such cases of mixed infection] to clear all this aside and make a preparation from most the recent part or margin of the diphtheritic membrane and immediately before any mucous membrane adheres to the denuded surface, In the severe cases of diphtheria, as a rule, there is a great mixing of the microörganisms, leaving the true diphtheria bacillus present on an average of 10 to 15 per cent. of the cases. The severest form of diphtheria in the throat is the hemorrhagic, which is usually a mixed form; of infection. The examination of the blood in diphtheria has a variety of results. In about half the examinations of severe diphtheria, the streptococci are found to be present; and the hemorrhagic form has always the highest percentage present. The presence of the streptococci in the blood is not accidental, nor does it constantly mark the fatal result according to Chvostek, but it is indisputably connected with a virulent streptococcus. He considers the morbid phenomena are due to the sum of the toxins locally absorbed into the body; but the clinical distinction of a "septic diphtheria," principally due to the products of the streptococci, cannot easily be determined, as the symptoms are not always identical. He is also satisfied that the serum injections have reduced the mortality one-half; but it is more effectual when early applied. When the diphtheria toxin is in excess and rapidly accumulating, affecting the whole organism, injections on the second day will be found to be too late. In such cases it will be found that the streptococci are in the greatest excess, which, added to the virulence of the diphtheria will defy the most energetic efforts. It is not necessary, nor probable, that the streptococci will be found in the blood, although the toxins will have reached that fluid. Roux and Martin have clearly demonstrated this fact on animals when the products of the streptococci have been injected, producing the severe "mixed" form of diphtheria.—*Medical Press and Circular.*

MEDICINE AND PATHOLOGY.

By Albert Abrams, M.D., Professor of Pathology, Cooper Medical College, San Francisco.

Purgation Leucocytosis.—DeRenzi reports a series of experiments which demonstrate that the ingestion of certain purgatives, such as castor oil, podophylin, scammony, etc., produce leucocytosis, due probably to the irritation of the purgatives on the entire mucous membrane. This leucocytosis is comparably to that which occurs during digestion.—*Semaine Médicale*, October 12, 1898.

Rythmic Shock of the Head in Aneurism of the Aorta.—Bruschini refers to the observation of Coop, who, in 1894, demonstrated that in aneurism of the transverse aorta, at each cardiac systole, the head of the patient is inclined slightly forward. Since this observation, the author [illegible] to study this symptom in six subjects, and [illegible] to the aneurism itself, independent of any [illegible] from the larynx or trachea. This phenomenon is [illegible] as well as in diagnosis. The oscillatory rythm of the [illegible] hours before rupture of the aneurism; its disappearance otherwise indicates the formation of clots in the aneurismal sac.—*Semaine Médicale*, October 12, 1898.

The Value and Limitations of Examinations of the Gastric Contents in Diseases of the Stomach.—DR. MAX EINHORN avers that examinations of the gastric contents may be omitted whenever we are able to arrive at a positive diagnosis without them, and in all acute conditions, the latter generally tending to improvement in a short time. They are not absolutely necessary in chronic conditions which show improvement under established regimen, and in the majority of purely nervous affections. If an ulcer is suspected, the stomach tube should only be used with the greatest care. In ulcer with hemorrhage, it is best to forego the tube. The field in which examinations of the gastric contents are necessary, comprises all chronic affections of the stomach with doubtful diagnosis, and which show but slight manifestations of improvement. The examinations may help us to recognize: (1) Chronic gastric catarrh: acidity diminished, the ferments present, free HCl., variable; mucus present in a large number of cases. (2) Achylia gastrica: total absence of gastric juice, no HCl., no ferments, total acidity very low, almost neutral. (3) Cancer of the stomach: in many instances incipient cancer of the stomach may be recognized by the constant presence of the following symptoms: free hydrochloric acid, absent; lactic acid, present; acidity not especially low, sometimes increased; mucus; sometimes small amounts of blackish-looking blood and stagnant food. (4) Hyperchlorhydria: free HCl. present; acidity between 70–140. (5) Gastro-succorrhea continua chronica: presence of about 60–100 c.c. of clear gastric juice in the stomach in the fasting condition. (6) Erosions of the stomach: presence of a few small pieces of the gastric mucosa in the wash water of the stomach in the fasting condition. (7) Ischochochymia: presence of food in the stomach in the fasting condition. Often the examination of the vomited matter may do away with the need of obtaining the gastric contents by artificial means. It is, however, readily understood that the vomited matter may occasionally fail to furnish exact data upon the condition of the gastric secretion, as it is mixed with mucus from the esophageal walls and the mouth. While the results of examinations of the gastric contents are useful in aiding to establish the diagnosis in gastric disorders, it is hardly necessary to say that we should not rely upon them alone. We must always combine all the data concerning any given case before arriving at a conclusion. It is only in this way that examinations of the gastric contents will be of great aid to us in helping to establish a more positive diagnosis, and in thus facilitating the treatment.—*National Medical Review*, February, 1898.

MENTAL DISEASES AND MEDICAL JURISPRUDENCE.

By A. W. HOISHOLT, M.D., Assistant Physician, State Asylum for Insane, Stockton, Cal.

Tea Cigarettes.—Fashionable English ladies are said no longer to be content to drink tea, but that they smoke it at their five-o'clock teas. A lady, who is very well known, always has tea cigarettes passed around after dinner. Another spends nearly two pounds sterling a week in order to gratify her taste for the cigarette; and three [illegible] actresses have given [illegible] parties several times. In Kensington a number of literary ladies have organized a club for [illegible] purposes. The habit has spread so everywhere that tobacco merchants are offering packages of ten cigarettes to the public.—*Dublin Journal of Medical Science.*

Development of Catalepsy and Insanity in Connection with Icterus.—DRS DAMSCH and CRAMER report certain observations on this subject, which they classify into: (1) Cataleptic symptoms in mild cases of icterus among children. (2) So-called maniacal conditions, or more properly mental confusion with excitement in connection with acute yellow atrophy of the liver. (3) Complication of icterus with cases of pronounced psychosis. They emphasize that icterus, combined with cataleptic phenomena, occurred in an epidemic form, and consider this a distinct infectious disease. They describe in detail such a case in an infant 15 months old, who had had a diarrhea lasting two weeks, during which period it had for six days had attacks of vomiting, associated with icterus, urticaria, cataleptic rigidity and wax-like flexibility of the extremities, which had lasted nine days. After the administration of calomel and tr. rhei aq. there was a gradual subsidence of the symptoms. The oldest child presenting this complex of symptoms was 7 years of age. In no case was there a psychopathic history. The authors consider the catalepsy to be due to action of toxic substances on the nervous system, and are of the opinion that the liver under the influence of toxic bacteria produces these toxins—that, in other words, one is dealing with a condition of specific autointoxication. The second observation was made in a case in which there was a development following a miscarriage of icterus, pain in the region of the liver without enlargement of the same, together with hemorrhages from the rectum and pharynx, and a measles-like eruption. At the same time the patient was sometimes unconscious, sometimes maniacally excited. The urine contained a large quantity of albumin, blood, and epithelial casts. As she had refused all food, and had lost greatly in strength, an infusion of 1½ litres of a salt-solution was given. This was followed by improvement; there was a return of consciousness, the vomiting ceased, the urine became free from albumin, and after several weeks the patient could be discharged as recovered. The third observation concerned a gentleman 54 years of age, who had suffered every year from stomach disturbances combined with an icterus. The last attack began with the same symptoms as on former occasions, to which were added sleeplessness, hypochondriacal ideas, and later on pronounced attacks of fear, alternating with complete apathy, and subnormal temperature, pronounced icterus, constipation and albumin in the urine. Secondarily a pneumonia set in, which caused his death. The *post-mortem* examination showed no demonstrable changes in the liver. A very thorough examination of the central nervous system was made and showed adhesions of the dura to the skull-cap, numerous recent and a few older hemorrhages, vessels surrounded by zones containing few nuclei, and in some places a mild affection of the ganglion cells. Considering these *post-mortem* findings insufficient to account for the intense cerebral manifestations the authors look upon the icterus as the most important causal factor of the insanity. One is probably also in this case dealing with an autointoxication proceeding from the organs of digestion, although it has not been possible to ascertain the source of the intoxication.—*Berliner klin. Wochenschr.*—*Centralblatt f. Innere Medicin*, September 17, 1898.

FORMULÆ.

By H. E. Sanderson, Ph.B., M.D., Assistant Physician State Asylum for Insane, Stockton, Cal.

Oil-of-Cade for Lupus Erythematosus.—Block (*Deutsche Med. Zeitung—Gazette hebdom. de Méd. et de Chirurg.*) reports a case cured by 2 months' use of the following ointment:

Oil of cade	5 parts
Zinc. oxide	Each 10 parts
Green soap	
Vaseline	

A mercurial plaster was also applied at night.—*New York Medical Journal.*

A Resolvent Mixture.—*The Gazette heddom. de Med. et de Chirurg.* gives the following formula:

Ammon. chloride	Each 10 parts
Tincture of arnica	
Camph. vinegar	Each 75 parts
Camph. brandy	
Infusion of rue	300 parts

Sig.—External use.—*New York Medical Journal.*

Leistikow's Itch Ointment.—In the *Semaine Méd.* (*Progrèss. Méd.*) the formula is given as follows:

Beta naphthol	5 parts
Precipitated sulph.	10 parts
Styrax	Each 30 parts
Powd. pyrethrum	
Lard	100 parts

Sig.—Rub in once a day for 3 days; wear flannel underclothing meantime.—*New York Medical Journal.*

[illegible].—No treatment has been found superior, according to C. W. Allen, to painting each day with

Methylene blue	gr. v
Spirit. vini rect.	ʒ ss
Liquor. potassi	m. v
Aquæ distilat.	ʒ ii

—*Medical Record.*

Furuncle of Eyelid:

Tinct. camphoræ	m. xv
Sulphur. precip.	gr. xv
Aquæ calcis	āā ʒ ijss
Aquæ rosæ	
Gum. acaciæ	gr. iii

Sig.—Apply to lids as directed.—Landolt and Gijax.—*Med. Record.*

Infantile Convulsions:

Musk	7 grs
Gum arabic	30 grs
Fennel water	āā 450 grs
Syr. of orange peel	

Sig.—Teaspoonful every hour or two.—*Centralblatt. f. die ges. Therapie.—New York Medical Journal.*

Uranium for Coryza.—The *Revue Médicale* recommends uranium acetate solution in water, 5 to 10 per cent. strength, for coryza. Two or 3 drops to be snuffed up daily.—*Western Druggist.—New York Medical Journal.*

METEOROLOGY.

Summary for October, 1898.—*Temperature.*—The mean temperature of the State for October, 1898, was 61.0°, a departure from the normal of 0 4°; the highest monthly mean was 83 8°, at Volcano Springs; the lowest, 38.2°, at Boca. The maximum temperature was 111°, at Volcano Springs, on the 5th. The minimum, 9°, at Bodie, on the 4th. The absolute range for the State was 102°. The greatest daily range was 58°, at Greenville; the least, 19°, at Coronado.

Rainfall.—The normal precipitation for the State for October is 1.09 inches; the average for October, 1898, was 0.59 inches, a departure from the normal —.50 inches. The greatest monthly precipitation was 5.39 inches, at Crescent City; the least, nothing, at some fifty stations.

Wind.—The prevailing direction of wind was westerly.—W. H. Hammon, Forecast Official and Section Director.

California—Tabular Statement for October, 1898.

STATIONS.	Temperature.						Rainfall.		Mean Relative Humidity	Weather.			Wind.	Furnished by—
	Mean	Highest	Lowest	Mean Highest	Mean Lowest	Mean Daily Range	No. of Days Rain Fell	Total Rainfall		No. of Clear Days	No. of Fair Days	No. of Cloudy Days	Prevailing Direction.	
Auburn..........Cal.	55.4	85	44	------	------	------	3	1.75	------	21	0	10	N.E.	Southern Pacific Company.
Berkeley......... "	60.6	80	47	68 1	53.1	1.50	6	1.88	------	15	11	5	S.	Obs. University of California.
Colfax........... "	60.8	82	42	------	------	------	3	1.42	------	18	6	7	S.	Southern Pacific Company.
Coronado........ "	64.2	79	56	67.7	60.7	7.0	----	.00	------	----	----	----	--------	H. A. Massc.
Eureka........... "	54.0	66	41	59.7	48.1	11.6	12	2.13	85.0	9	14	8	N.W.	Weather Bureau Dept. Agr.
Fresno........... "	65.0	90	44	78.0	51.0	27.0	1	.03	53.0	25	3	3	N.W.	" " "
Keeler............ "	65.6	87	50	------	------	------	----	.00	------	21	9	1	--------	California and Nevada R. R.
Los Angeles.... "	65.0	91	45	77.9	51.2	16.7	2	.00	72.0	18	13	0	W.	U. S. Weather Bureau.
Monterey .... "	58.1	82	42	------	------	------	4	.20	------	20	0	11	S	Southern Pacific Company.
Napa........... .. "	63 4	94	37	79.4	47.3	32.1	3	.88	74.0	20	6	5	S.W.	Station Napa Insane Asylum.
Oakland......... "	60.0	81	44	69.2	50.7	8.5	5	1.48	------	14	13	4	W.	Chabot Observatory.
Paso Robles.... "	61.5	89	38	76.7	46.3	30.4	2	.13	------	21	9	1	S.W.	Agr. Experimental Station.
Red Bluff....... "	64.0	90	41	76 4	52.2	24 2	5	.46	44.0	18	9	4	N.	Weather Bureau Dept. Agr.
Sacramento..... "	63.0	88	44	75.8	50.9	14.9	3	.64	53.0	16	8	7	N.	" " "
San Bernardino "	64.4	97	38	84.0	44.7	39.3	1	.03	------	21	9	1	W.	A. K. Johnson, M. D.
San Diego....... "	62 0	81	51	68 9	55.7	12.2	----	.00	78.0	27	2	2	N.W.	Weather Bureau Dept. Agr.
San Francisco.. "	61.0	81	50	68.4	54.0	14.4	4	.86	74.0	14	14	3	W.	" " "
Santa Barbara.. "	61 8	87	48	71.1	52.6	18.5	1	.14	73.0	19	8	4	E.	Hugh D. Vail.
Santa Cruz...... "	61.2	92	38	77.8	44.6	33.2	3	.40	------	20	6	5	S.W.	Ralph Springer.
Yuma..........A. T.	72.3	97	48	88.4	56 0	32.4	----	.00	31.0	26	3	2	N.	Weather Bureau Dept. Agr.

Blank (----) indicates data missing.

[redacted]

Communications are invited from all parts of the world. When necessary to elucidate the text, illustrations will be furnished without cost to the author.

SACRAMENTO: DECEMBER, 1898.

CALIFORNIA NORTHERN DISTRICT MEDICAL SOCIETY.

The eighth annual meeting of the California Northern District Medical Society, which was held in Unity Hall, Foresters' Building, Sacramento, on Tuesday, November 14th, was as successful as most that have preceded it. There has of recent years been no exception to this rule. The attendance may vary according to locality, but there are always enough of the members present to testify to the appreciation in which the meetings are held. On this particular occasion the only point that might be noted was the very high standard of the papers presented. They were more than above the average, and well repaid those who had taken a day off for mental recreation. If a criticism could be made, it is that the discussions were necessarily limited; but this is inevitable unless the supply of papers be strictly curtailed.

An interesting and practical feature of the occasion was the unlimited abuse that was heaped upon the city's water supply. This was in a measure brought down by MAYOR LAND, who, in welcoming the members from abroad, remarked that the citizens of Sacramento would be glad of an expression of opinion regarding the water supply of the city. This was generously and freely given and members from cities north of Sacramento vied with each other in emphasizing with ghastly particularity the specific sources of pollution furnished by their respective burghs. HIS HONOR, J. ELLIS RODLEY, the Mayor of Chico, was most emphatic in denouncing Sacramento's unfortunate condition, from the dual standpoint of preventive medicine and of municipal government, and hinted that in the near future his progressive city would furnish a marked but unwelcome addition to the present water supply. Nor did the matter rest here, for at the banquet in the evening the theme was rethreshed. The visitors, one and all, showed such marked distrust of the water, that, yielding to the force of example and precept, THE MAYOR of Sacramento announced himself as completely converted from his old time beverage and evidently in favor of a better supply.

The Society elected as President for the ensuing year DR. R. F. ROONEY, of Auburn, who has already demonstrated his ability to preside over a deliberative body, and will certainly make an excellent President. Grass Valley was chosen as the next place of meeting, and while selected without reference to the wishes of the local profession, we understand that a hearty welcome will be offered the Society, and that already steps have been taken for the occasion.

After the adjournment of the meeting a banquet was tendered to the District Society by the Sacramento Society for Medical Improvement, which proved a most successful affair. The responses to toasts were well timed and the local hits to which we have already alluded, were well placed.

SOCIETY PROCEEDINGS.

SACRAMENTO SOCIETY FOR MEDICAL IMPROVEMENT.

Regular Meeting, October 25, 1898.

The President, F. R. WAGGONER, M D., in the Chair.

Large Recurrent Tumor of the Neck.—DR. G. A. WHITE exhibited a large tumor which he had removed from the neck of a colored man, with the following history: It first made its appearance some 20 years ago as an enlarged gland. It was removed when it became the size of a pigeon's egg. Two years later it reached the size of a hen's egg, when it was removed a second time. Since that time it has been developing gradually, the negro having declined to have it operated upon the third time. Having burned it some weeks ago there was some discharge from it, and he wanted to have something done. He decided to undergo an operation. There was very little hemorrhage. It lay along the course of the carotid. There was no shock, and the patient bids fair to make a good recovery. It was presented on account of its remarkable size, being larger than any the speaker had ever seen.

DR. H. H. LOOK read a paper upon the sanitary conditions in Alaska.

DR. F. L. ATKINSON: I think we have been treated to a very good description as regards the prevailing diseases. As I did not travel further than the fifty-ninth parallel, I did not meet any of the scorbutic conditions described by the author. I will say that, from a medical standpoint, my experience was *nil.* I took a small case of medicine along, but prescribed only six times. In the region I have traversed balsam was the principal timber; there was also cedar and hemlock. It gives out its characteristic odor, and it proved to me to be very good for catarrh. After leaving Stickeen river we then went up the coast to Glacier Bay, Sitka, and Juneau. In Northern British Columbia the country seems to have been raised up in the beginning and the mountains planted on top of it, and in the spaces between the high mountains are plateaus covered with grass. On the tops of these high mountains we find glaciers half as large as the city of Sacramento, held by rim-rock, with ice overhanging. The climate was very pleasant; about half of the time we had a drizzling rain. The precipitation was constant, but not severe. The streams are very swift and hard to cross. I have seen streams in six hours rise about ten feet.

DR H. L. NICHOLS: I was very much pleased with the author's paper, which is out of the usual course. I would like to inquire if there were any fish in the rivers and lakes?

Dr. [illegible] [illegible] takes [illegible] but is [illegible]

Dr. G. [illegible] Alaska, and [illegible] phobia." I [illegible] he read a paper [illegible] covered the ground as well. He has come back to civilization [illegible] his normal condition, and if he recovers from orophobia he will no doubt profit by his experience.

Dr. G. L. Simmons: In connection with scurvy, I wish to say that in early times I saw a great many cases, particularly in persons coming around Cape Horn. In these cases the remedy was simply raw potatoes.

Dr. W. W. Macfarlane: Twenty-five years ago I saw a number of cases of scurvy. I fed them buttermilk, three pints daily, a pint at each meal, and in the course of a few weeks they got well.

Dr. Look: Cerebro-spinal meningitis was flourishing, and the course of the disease was about as you will find it anywhere else. The mortality was very high. A man would take the disease in the morning and would die before night. The percentage of recoveries was small. After the rush in the fall there was a lot of waste material—cats, dogs, and all sorts of animals taken to pack goods over the mountains, and when they died they were simply dumped into the water. The streets of Dyea and Skaguay were filled with these dead animals, and the people drank the water that ran over them during the winter. That was the cause to which I ascribed the disease. Those who were with me boiled the water they used, and none were taken down with the trouble.

ALAMEDA COUNTY MEDICAL ASSOCIATION.

Regular Meeting, September 13, 1898.

The President, H. G. Thomas, M.D., in the Chair.

Dr. F. L. Adams read a paper on "Vaginal Hysterectomy" [published at p. 466].

Dr. W. F. B. Wakefield: Whenever practicable I prefer the vaginal route for total extirpation of the uterus and appendages. I have not yet decided whether I prefer the clamp or the ligature. The clamp operation, while enabling one to perform the work more quickly, and permitting one to reach distant tissues which it would be difficult or impossible to ligate, is, nevertheless, open to the following objections: (1) The pelvic and intestinal peritoneum is liable to become infected by putilage from the breaking down of the tissues which have been caught in the bite of the instrument. Especially will this happen when the bruised stumps, released from the weight of the clamp forceps, spring back into the peritoneal cavity. (2) The large open channel between the abdomen and the vagina invites contamination of the contents of the former. (3) We have always the possibility of the clamp catching one of the ureters in its bite. (4) After the use of the clamp there is liability of intestinal adhesion to the margin of the wound caused by the clamp, producing fatal obstruction. This has happened so frequently as to make some clamp enthusiasts return to the use of the ligature. (5) The obstruction of the vagina by the presence of such bulky instruments makes the removal of the distant tubes and ovaries difficult, if not in some cases impossible. (6) There is a danger of the points of the clamps producing direct traumatic injury of the intestines. (7) The danger of fatal hemorrhage from the slipping off of the forceps is far greater than when ligatures are used. (8) There is more or less wounding of the vaginal walls from the prolonged pressure of the clamps upon them. Against the use of the ligature may ever be urged the fact that they are likely to become infected, particularly in pus cases, and act as local foci for septic absorption. The future will have to decide which of the two methods is attended by the best results.

Dr. R. Krone: Vaginal hysterectomy and other vaginal operations on subperitoneal parts of the female genitalia sustain the same relation to the abdominal operations for the same purposes as the operation of intubation of the larynx relates to laryngotomy. Intubation does not always prove sufficient; laryngotomy is still necessary in some cases. But since we have had intubation, discriminating diagnosis has developed, and has created a sharply defined field for intubation, as well as for laryngotomy—so much so that rarely there remains a doubt which of the two is to be selected. This also holds true for vaginal hysterectomy and abdominal hysterectomy respectively. The vaginal route is nature's own way to the endometrium, uterine tubes and ovaries, and also her own way from the ovaries, uterine tubes and endometrium. The reason why abdominal operations developed before the vaginal is to be found in the circumstance that large tumors of the pelvis, which call more urgently for surgical relief than smaller tumefactions, became by their size abdominal in their crude topographical relations, and invited attack through the abdominal wall. Conservative surgery must concern itself with the maintenance of the integrity of all tissues, especially those that perform important physiological duties. When the pelvic floor is diseased, we have only a doubtful right to invade the abdomen—*i. e.*, incise its walls, disarrange its organs, tear its structures and tissues, and after all leave the same wound in the pelvic floor, which we leave by accomplishing our object through the vagina. In the selection of the route, I hold that the convenience of the surgeon cannot be taken into consideration. It is alone a matter of discriminating diagnosis, and I wish to go on record with this statement before this Society. I maintain that the abdominal route should only be chosen when the surgeon has satisfied himself, by convincing examination, that his purpose cannot be accomplished *per vaginam*. The indications for celiohysterectomy are: (1) The size and hardness of the tumor. (2) A movable pedunculated cystic growth, the walls of which cannot be reached through an exploratory incision, anterior or posterior to the uterus. (3) Contracted bony pelvis, or minimal virgin vagina. (4) Suspected malignant disease, or tuberculosis. The contraindications are alike for both methods. A general peritonitis should be carefully looked for and prevented by expectancy and medicinal attention to the acute symptoms of progressive local inflammation. In septic cases—*i. e.*, cases which present the probability of accummulation of pus anywhere in the pelvis, I would select the vaginal route. The rupture of a pus sac in the vagina during an operation is a matter of far less importance than is a similar discharge into the abdominal cavity during a celiostomy. You may use destructants, as peroxide of hydrogen and formaldehyde solutions, or antiseptics, or diluents, as normal salt solution—your anxiety in the case will not be lessened until you are able to dismiss the patient cured.

SAN JOAQUIN VALLEY MEDICAL SOCIETY,

Third Semi-annual Meeting, held at Hanford, October 11, 1898.

AFTERNOON SESSION.

The third semi-annual meeting of the San Joaquin Valley Medical Society was held at Masonic Hall, Hanford, October 11, 1898, the Society being called to order by the President, T. E. Taggart, of Bakersfield.

President's Address.—T. E. TAGGART, of Bakersfield, the President of the Society, delivered a brief address. He said: It is a pleasure as well as a duty to extend to you a very cordial welcome. The meetings of these societies are both useful and enjoyable. They afford the members of our profession a chance to renew old acquaintances and make new ones. They also bring together men engaged in the active practice of medicine, who are able to present to you practical questions in a manner that will elicit discussion, which is of benefit to all. I sincerely trust that this meeting will be as beneficial as our meetings in the past, and that when we go back to our silent work each one of us will be better equipped, full of kind remembrances, and with a feeling that each successive meeting will prove of advantage to suffering humanity, and tend to the elevation of our honorable profession.

Electricity in some Forms of Genito-Urinary Disease.—N. P. DUNCAN, of Hanford, in a paper upon this subject, said: As he proposed to consider several diseases and only one remedy, he would take up first the study of the remedy, in order, then, to prove rapidly [illegible] electrical [illegible] which have a [illegible] practice must conform if we would [illegible] by this agent. Of these, the first [illegible] body, with its large percentage of water and [illegible] electrolyte. When a continuous galvanic current is passed through the body, electrolysis commences. According to Grotthus, there is a decomposition of the molecules, everywhere, but at the same time, a recomposition. The speaker believed, from personal experience, that this electro-chemical action had much to do with interpolar effects upon diseased structures. He believed that electrolysis, as well as cataphoresis, could be utilized in the local application of medicaments to internal abnormal tissues. Electrolysis was the basis of the treatment of stricture, the method having been devised by Dr. Robert Newman, of New York, and much diversity of opinion existed as to its value in this disease. The speaker then described the steps in this operation, stating that he had found a current of from two to four milliamperes to be sufficient. He said, as a rule, when a stricture is cured by this method, no relapse takes place. Ill results may usually be attributed to rough handling and undue current strength. In chronic uterine congestion, with its innumerable discomforts, he had found a mild faradic current, of gradually increasing strength, to be most valuable. The absorption of pelvic exudates could be largely assisted by a constant galvanic current. The irritable conditions of the bladder and urethra could often be relieved by the judicious application of either current. In the nocturnal incontinence of urine in children he had found electricity most valuable—in fact, while doubtless there were cases of nocturnal incontinence in which this treatment might fail, he had not happened to meet with them.

Dr. J. B. Rosson, of Tulare: My experience in the use of electricity is not very extensive, being more in connection with electrolysis, although I have never employed that agent in stricture. I undertook once to destroy a patch of hair, but I will never undertake to do anything of the kind again. A young lady had a patch of hair as big as a half dollar on her chin, and I promised to destroy it, but it took me all winter to do it. I would advise any doctor here not to undertake to destroy a patch of hair unless he is prepared to spend considerable time in so doing. It is an excellent thing to destroy the hair follicles where inturning of the lashes cause them to scratch the cornea. It is sometimes difficult to find them, but if you once get the needle into the follicles you can destroy them. I think the author's method of treating stricture is excellent.

Dr. W N. Sherman, of Merced: I am glad I have had the opportunity of listening to this paper. It is of special interest to me because I had a successful experience in the use of electricity, and I wish others could be induced to use it in this class of affections. I am often surprised to read or hear the statement that electricity is of no value in stricture or in uterine fibroids. Why this difference of opinion with such eminent authority as Apostoli and Newman? Martin, of Chicago, says that electricity is efficient, and compares the discovery of Apostoli to that of Moore and Fulton. Keith laments the fact that he has had patients die under the knife whom he might have saved by electricity. You will hear men say that typhoid fever cannot be aborted, yet it is being done every day. So with stricture of the urethra, where relief by electricity has been proven beyond doubt. I would account for this variance of opinion, from the fact that I do not believe all men handle electricity as a therapeutic agent with equal skill. The same thing is true with medicines. One man may use a certain drug more skilfully than another. I have had a very satisfactory experience with the treatment of stricture by electrolysis. I use a current of from 5 to 15 milliamperes under an electro-motive force of about 75 volts, varying the current according to the susceptibility of the patient. With the large dispersing electrode over the abdomen the small negative electrode is passed through the stricture, I withdraw it slowly, with the current still on, when it passes forward through the stricture. I turn off the current before withdrawing the electrode. Sometimes fifteen minutes is occupied in passing through the stricture, the current being increased gradually up to the limit mentioned

Dr. G. A. Hare, of Fresno: As regards stricture, I use small currents at long intervals. The matter of constancy of current is essential. I do not approve [illegible] the doctor's method of letting the patient control it. There is another [illegible] I wish to state is, that in those relaxed pelvic cases that come to us [illegible]. I do not use pessaries now in these cases as I believe they are useless [illegible] in many of those cases. The faradic current is very beneficial in stimulating and toning up the system. The intelligent application of the electric current is sometimes of great benefit.

Exophthalmic Goitre.—A. F SHAFFER, of Bakersfield, read a paper upon this subject. [Published at p. 507.]

DR. CHESTER ROWELL, of Fresno: I am glad to note that the author has made a distinction between the ordinary cases met with, and those cases of exophthalmic goitre. My experience in this direction has not been very extensive. Some three years ago I had occasion to look up the literature on the subject, and since then have observed a number of articles concerning the same subject, from which I have drawn these conclusions, namely, those given by the author: that the disease is markedly distinctive in its range of character from that of ordinary goitre, and that it is in many senses of the word a nervous affection, nearly always occurring in women of lymphatic temperament and apt to be somewhat scrofulous, produced by some severe shock, and not associated with any pelvic disturbance. In my own cases and from a number which I have observed with Dr. L. C. Lane, of San Francisco, I have come to the conclusion that operative surgery is not generally admissible. The treatment must be constitutional, and that ordinarily given for goitre, and especially in myxedema, in this condition, is positively injurious. The conclusions of the author that in those cases there is an increased activity of the thyroid gland is correct. There is an absorption, in some way, into the circulation, of the poison, that affects the heart and brings on a train of nervous symptoms. In a case which came under my observation some two years ago, the disease developed very suddenly—in two or three months. This woman, about 25 years of age, was generally in good health, having come to Fresno, with a sick child, that was taken with diphtheria, and died two or three days afterwards. The shock was so great that within the next few weeks she began to develop symptoms of exopthalmic goitre; the heart's action was rapid, the eyes staring, she became anemic, and the thyroid gland began to enlarge. She had a pulse of 160 and was exceedingly nervous. I commenced a system of constitutional treatment and also injected five drops of compound tincture of iodine into the goitre, and applied galvanism from five to fifteen minutes, using a 24-cell galvanic battery. I had the pleasure of noting a steady improvement, the gland gradually reduced in size, the heart's action slowed down, but never became normal. After taking treatment for two months she went to the sea coast where she began treatment again. While the tumor did not entirely disappear, the other symptoms have ceased to exist, and the eyes have lost the stary look. She has gained pounds and is able to attend to her ordinary domestic duties. Since then I have seen two cases in which constitutional treatment has been of much benefit. From my own observation and with Dr. Lane's 13 operative cases, in 11 of which he had been successful—two having died from secondary hemorrhage—I am of the opinion that there is as much in electricity as in the knife. The only matter of interest would be the fact that the use of preparations of the thyroid gland is absolutely harmless in these cases. My own conclusion is that there is more to be expected from constitutional treatment than from any local measures

DR. J. B. ROSSON, of Tulare: I once had the opportunity of observing a case of ophthalmic goitre from the time the patient was a small girl. Her eyes were always large and prominent, and there was no goitre noticed until she was 18 or 19 years old. She married at 18, and at the age of 24 she died from exopthalmic goitre. Not until just before death did she manifest the symptoms of exophthalmos. The Graves' sign made its appearance about three months before her death. She never menstruated in her life. The uterus was very small, the neck not being larger than the end of my little finger. The goitre was not sufficiently prominent to be easily diagnosticated. She looked well in the face, and was physically well developed. From puberty until a short time before her death she was always complaining. No one was able to diagnosticate her case until a few months before death; indeed, the symptoms were so slight and the [illegible] that two [illegible] [illegible] [illegible] was [illegible] of [illegible] a [illegible] of [illegible] goitre; or that a lack of development in the [illegible] in [illegible] case? I do not pretend to know anything about it, but I do know there is [illegible] of uterine development in the cases I have seen, and they were always [illegible]

Dr. D. H. Trowbridge, of Fresno: I have under treatment a patient [illegible] years of age, who has a large goitre of the left lobe which is somewhat remarkable for its size, being almost as large as a fist—giving a neck measurement of 17½ inches. There is slight exophthalmos. I have kept him on thyroid extract (Parke, Davis & Co.'s), for two months, without any apparent result. Recently I gave him a teaspoonful of fluid extract of ergot four times a day, and have made external applications of tincture of iodine; still there is no beneficial result I contemplate using a strong galvanic current through the enlarged gland, and should this prove ineffectual will advise an operation.

Dr. W. W. Cross, of Visalia; There can be no mistake as to what causes the symptoms in exophthalmic goitre. In those cases which have the symptoms peculiar to this form of goitre, we always find the essential or secreting structure of the thyroid gland increased. In some cases the thyroid may not be much enlarged, yet the symptoms are very marked. In those cases in which the interstitial connective tissue is increased, and the epithelial structure is killed and obliterated, the opposite condition of myxedema is produced The condition in exophthalmic goitre being one of stimulation, while the condition in myxedema is one of depression, all of the symptoms of exophthalmic goitre can be produced by excessive administration of thyroid extract. This has been done with animals as an experiment, and in the human subject by pushing the administration of thyroid extract too far. I have seen a patient, a young woman, who would soon show symptoms of myxedema if she discontinued the use of the thyroid extract for any length of time, say two weeks. As to what brings on the activity of the thyroid gland, causing it to increase in structure and manufacturing an excessive amount of secretion, we are still at a loss. Parks, in his article on Water, mentions the fact that in certain localities in Switzerland, the young men drink snow water, and that they have produced goitre in a few weeks' time, which subsided when they discontinued using the water. Their object in doing this was to escape military duty. The unfortunate condition of myxedema which so frequently follows removal of the thyroid gland in the human subject, is further evidence of the value of the secretion to the physiological balance. At present the entire body of the gland is not always removed in operations for the relief of this trouble. The fact that a patient will go from the condition of exophthalmic goitre to one of myxedema after an operation, in which the whole gland is removed, seems to me to leave little doubt as to what produced the symptoms in exophthalmic goitre.

Dr. H. Hildreth, of Delano: I am not sufficiently familiar with microscopical anatomy to account for any sympathy that may exist between the postorbital tissues and the thyroid gland; no more can I account for the sympathy between the testicles and the thyroid. Reason would allow one to anticipate a sympathy between the testes and the prostate. Both are duct glands, and both concerned in the same function, but when a duct gland and a ductless gland sympathize, to me all is conjecture; yet these things are taught as established. My reasoning teaches me that the goitre and the exophthalmos are symptoms and not the disease, just as the ague shake is only a symptom of malaria. The true disease remains to be discovered. The medical profession has unlocked many secrets. When we see a case of jaundice we do not put our patient in a chlorine bath to bleach his skin to a normal color. We look after his liver. When we have puerperal eclampsia, or mania we look after the kidneys instead of giving the old Missouri treatment for "fits;" neither do we railroad our patients to an insane asylum devoted to the care of the insane. So we will reason this goitre question out on established points. Some writers claim that environment is a potent factor. With this we may well agree, seeing that the disease is never epidemic; therefore, locality being an established factor, diet [illegible] water supply must be the prime agent, allowing for such influence as locality may supply. We have it as an established fact that the [illegible] use of "[illegible] rye," produces, endemically, gangrene of the phalanges. Why not allow the point that the source of goitre lies in some defect in the [illegible] of the localities where this disease is prevalent. Typhoid comes from impure, unfiltered water. We acquire our malarial parasite both from water and from air that has passed over stagnant water and decaying vegetation. So I argue that goitre must have its origin which in some way is yet to be discovered by some one who treats many cases, and not by one to whom the affection is a rarity. My one case in California proved my undoing. I had a patient, undeniably syphilitic, who presented the exophthalmos prominently, and some other symptoms, such as failing mind, etc., while many symptoms were altogether lacking. I promptly pronounced the case one of syphilitic deposit in the orbit, either fluid or bony. The symptoms led me to believe there was exostosis, and possibly some pressure on the brain and cranial nerves. My mercury and iodide treatment ameliorated the symptoms, but the exophthalmos remained in a lesser degree. I sent my patient to Dr. Barkan, who, with Dr. Hirschfelder, took the liberty to disagree with me, and pronounced the case goitre. Since that day I have chewed the cud of sweet and bitter fancies, and will patiently await an autopsy on this patient, when, if I am vindicated, I will smile In ancient times all diseases were attributed to the "humors of the body." As near as I can understand when the "humors" were normal there was no call for medical interference, but when the "humors" were bad there was trouble, and a doctor to pay. The only difference several centuries has accomplished is, the doctor is called and seldom paid. Therefore, look to the fluids and solids as well before they enter the body as after, and if your microscope is strong enough, examine them as they exist in the circulation. We must look to those who have clinical material to unravel this, which to me is an insoluble problem. To the clinician, the microscopist, and the chemist is the work relegated, and the solution of the problem we can look for from infected districts. There is much to be said on this subject which I leave unsaid, for the reason that I have stated. Every man of reading and experience has a right to think, and it is the doctor's especial duty to think. As for treatment, I can only suggest. I think I see a way to eliminate the element of heredity. We might perform hypospadias on all the males afflicted with this or any other disease, and see that females of goitrous parentage or tendency have intercourse with no other males, or we might castrate all females of this description, or both. As for locality, we must advise the government to buy such a locality *in toto*, build a wall around it and people it with malefactors and ward politicians. This course of procedure would not only stamp out goitre, but insure to the future a survival of the fittest, and relieve the medical man of many troublesome problems.

Hypertrophic Rhinitis.—D. H TROWBRIDGE, of Fresno, read a paper on this subject He said that too little attention was paid to the subject of nasal diseases by the general practitioner, and affections that demanded treatment were dismissed without even proper examination. He had selected hypertrophic rhinitis, because this affection might exist for years and be a forerunner of most of the diseases of the throat and ears which were, therefore, really sequelæ. Of the ear diseases secondary to this condition, the first and most serious was chronic catarrh of the middle ear. As a result there may be a loss of hearing, varying from simple to absolute deafness and accompanied by the well known tinnitus, which was sometimes so severe as almost to induce suicide. These cases, even when of long standing, would often show marked improvement under treatment, which would indicate that much better results could be achieved by earlier attention. Adenoids, that are now recognized as a frequent condition, are often due to primary hypertrophy of the turbinates. Probably as serious a disease as can follow hypertrophic rhinitis, is the atrophic variety. The different steps in both processes have been classified by Seiss, and when once established the condition can rarely be relieved. Chronic inflammation of the pharynx and upper air passage are also later complications. The secondary results of stenosis of the nasal passages were frequently ignored, though of the most far-reaching consequence, and as it was usually possible to arrest the disease in its incipiency, the importance of early treatment could hardly be overestimated. The speaker closed by outlining his treatment of the primary disease, which was exceedingly thorough.

Dr. L. E. [illegible], of Hanford: As far as the treatment of the [illegible] affected by the [illegible] as [illegible] is impossible, in a [illegible] manner. As [illegible] nasal passages is concerned, we will have to [illegible] etc., but when you [illegible] examinations, we will have a great deal of [illegible]. A large [illegible] examinations will have to be made through the pharynx. This [illegible] however, in the earlier stages, is the best that could be advised—the [illegible] and thoroughly washing the membranes with antiseptic solutions, and [illegible]. I do not believe, after the second stage has occurred, that this plan of treatment will do much good. It will then be necessary to use the strong acids or the electric cautery, which should be heated to a red instead of a white heat.

Dr. W. N. Sherman, of Merced: In a great many of these cases constitutional treatment is also very beneficial. Where the patient is anemic and the nervous system depressed, some form of iron, in the shape of hypophosphites will hasten an improvement in the nasal mucous membrane.

Dr. G. A. Hare, of Fresno: I want to endorse all that the last speaker has said. I would like to suggest, in conjunction with hygienic methods, the close relationship between hypertrophic rhinitis and severe forms of indigestion. I do not now recall a single case of severe rhinitis with a good stomach. You will have difficulty in curing either, without treating both. I suffered from this affection nine or ten years myself—the dyspeptic results following the swallowing of the discharges from the nostrils, which renders the life of the patient intolerable. Internal remedies are essential.

Bradycardia.—J. A. Moore, of Hanford, read a paper upon this subject, and reported a case. The patient, who was 63 years of age, in addition to the usual diseases of childhood, had had several severe attacks of rheumatism. In May, 1897, he began to notice a gradual failure of health and strength. Examination showed a weakness of the cardiac muscles, a pulse averaging about 40; a slight systolic murmur could be heard over the precardial space. An alarming condition of palpitation and subsequent collapse brought on by an indiscretion in diet yielded to stimulants and rest. The patient was taking nitrate of strychnine. The speaker did not believe that digitalis was indicated. Bradycardia is divided into two groups. (1) Cases secondary to other complaints. (2) Those due to or associated with a neurosis The treatment is not satisfactory, but must be largely directed to the condition causing it. Where bradycardia is associated with fatty degeneration or atheroma of the coronary arteries, rest and freedom from worry and excitement are of the utmost importance.

Dr. J. B. Rosson, of Tulare: I have observed that in that state of the heart the conditions are physiological, and in many instances, due to an enlarged condition of the aortic orifice. I have sometimes observed it in hypertrophy of the heart. Where there is hypertrophy with angina pectoris, death will sometimes be quite sudden. My experience, in this direction, however, has not been very great.

Dr. F. A. Coombs, of Visalia: Napoleon was subject to epilepsy, and his pulse would range from 40 to 45. I remember, not a great many years ago, I was summoned in consultation to see a gentleman who weighed 240 pounds. He was a man about 45 years of age. His pulse remained for several months as low as 45, the rhythm of the heart was normal, yet his pulse was sluggish. I gave it as my judgment that he was suffering from hypertrophy with some deficiency in the blood supply of the heart. Another doctor was called; he said it was beyond him to find such a condition, and that the rhythm of the heart was good. Now, said I, if you knew that man as well as I do, you could account for it, for he never went to bed without a pint of whisky under his pillow. I said: In six weeks you will put this man in a straight jacket or it will take five men to hold him in bed. In about that time he was put in a straight jacket.

Blood Diagnosis.—F. E. Twining, of the Cutter Analytic Laboratories at Fresno, read a paper upon this subject. He said the study of the blood, which was a comparatively new subject, had already yielded important results. We are at present able to diagnose by this means a number of diseases, and while at present the conditions are complicated, it is hoped that further re-[illegible] the physician to [illegible] the speaker said: "A [illegible] (1) Examination of the fresh blood. (2) [illegible] of [illegible]. (3) Counting red and white corpuscles. (4) Estimating the [illegible] of corpuscles. (5) Estimating [illegible] of hemoglobin. (6) Estimating the specific gravity. (7) Examination of stained specimen. (8) Bacteriological examination. (9) Serum examination." The speaker then discussed at length the different methods employed, together with the necessary apparatus and the bearings upon the morbid process that each result implied. In conclusion he said that the amount of apparatus required for an ordinary blood examination is not great nor so very expensive. With a microscope having a power of from three to six hundred, a centrifuge with hematocrit attachment and an ordinary urinometer, much practical work can be done. An oil immersion objective is necessary for the bacteriological examination. Finally, with any amount of apparatus it takes considerable practice and experience to make blood examinations. [The paper was ordered to be published as part of the proceedings of the Society.]

Dr. W. N. Sherman, of Merced: I entirely agree with the conclusions of the author. I want to call attention to a few points from clinical investigation, omitted from the paper. In examining the blood in the various forms of anemia, the method mentioned is faulty for the reason that you do not get the distinct outline of the corpuscles that you do in other methods. With a glass slide, and after washing the finger in water, and in alcohol, if necessary, touch the edge of the slide to the blood and spread carefully over the glass. In that way you spread it in a uniform manner, it dries quickly, the corpuscles are not deformed, and you get a much nicer specimen than by the other method. If, when you drop the cover on the slide the blood is sometimes three or four corpuscles deep you do not get it as perfect as on the slide. Another method of preserving blood and of preventing the weather from making changes, is to run a ring of oil around the glass, and if you desire to keep the specimen, by mixing the oil with a little shellac, you can preserve it indefinitely. The paper did not mention, in speaking of the number of corpuscles on the slide, the variation in the male and female subject. You are called upon most frequently in those forms of anemia that are so frequent and which were usually diagnosed as pernicious anemia, leucocythemia, etc. These cases are sometimes very difficult to diagnose, from the fact that some border on pernicious and other severe forms so difficult to differentiate.

Dr. G. A. Hare, of Fresno: I want to compliment the author of the paper for the able manner in which it has been presented. I am much impressed with the fact that the study of medicine is at the present time making very rapid progress. I trust that, from time to time, we will have papers of this character presented to us, as I believe they will do much to stimulate the progress that is now being made.

Evening Session.

Three Interesting Surgical Cases.—Under this caption, J. B. Rosson, of Tulare, reported three cases which, while not unique, illustrated the fact that sometimes simple cases had been lost because of a want of boldness on the part of the physician and surgeon. Too often, physicians hesitated to do that which was best for their patients lest they might be blamed for a possible unsuccessful result. The speaker's course had been to state plainly that method which offered the best chances for the patient's life, and if a refusal followed he would insist upon consultation or the employment of another attendant. To allow a patient with a fractured and depressed skull to run the inevitable risks without trephining or to expose him to the possible dangers of epilepsy or paralysis was highly improper. The speaker then reported his cases, the first being a very extensive and depressed fracture of the skull in a ten-year-old boy. The depression was elevated to the normal position, and a triangular fragment of bone replaced. The wound healed kindly and the bone has never been a source of trouble. The second case was that of a boy six years of age, who was kicked by a pony, the anterior wall of the frontal sinus being extensively comminuted, the fracture extending to the superior border of the frontal bone. The com-

[illegible] jury. [illegible] of a [illegible] lished [illegible], with the result [illegible] in about [illegible].

Dr. F. A. [illegible], of Visalia: The exhibition of these [illegible] and the history of the cases present one material fact, namely, the [illegible] of antiseptic surgery. Under the old regime these patients would have died, simply from the fact that that element was not introduced into the practice of surgery. We knew nothing about bichloride of mercury or any of the elements of antiseptic treatment. We resorted to cold or hot water. We see cases now in which the human organism is all torn to pieces and yet they will get well without any trouble. I have seen a good deal of military surgery, part of which was before the introduction of antiseptics and I must confess that often a soldier with only a superficial wound would die from pyemia, etc., for want of antiseptic treatment. I am glad that I have lived long enough to listen to these lights that have been shed upon the profession, and I hope I will live long enough yet to see more light shed upon the profession, because I do not intend to die until I learn more about medicine. I learn every day, and I have found out, gentlemen, that all the wisdom in medicine is not confined to gray hairs and bald heads, but the gray and the bald should look into the mysteries that have been developed by the young men of the profession. We are just in the beginning of the introduction of these grand mysteries, and I think that the time will come when we can draw a definite relation between waste and repair. If we can keep the blood in such a condition as that laid down by the author, life can be prolonged.

The Artificial Feeding of Infants.—J. C. Moore, of Lemore, read a paper upon this subject. He said every practitioner was familiar with the grave results arising from faulty nutrition of infants, yet how often, when it became necessary to feed a child artificially, the physician carelessly allows the mother to grope helplessly amidst the chaos of advertised foods and nursing devices. The subject could best be studied under the heads of: (1) Quality. (2) Mode of preparation. (3) Quantity. (4) Interval between feedings. (5) Mode of administration. To imitate, as nearly as possible, mother's milk is what is desired. The substitute usually chosen is cow's milk, and when properly prepared will give good results The speaker then discussed the chemical and physical differences between cow's milk and human milk, and alluded to the deplorable lack of fat in most of the artificial foods. The excess of albuminoids in cow's milk explains the rapidity with which infant digestion is overtaxed by small amounts of that fluid, undiluted. The speaker advised the use of the Rotch formula for modification of the milk, and condemned sterilization as having serious drawbacks. Pasteurization, or raising the temperature of the milk to 160° or 170° F. and maintaining it at that point for ten to twenty minutes, was equally efficient and not so injurious. As a rule, infants were over-fed. Quantity should be strictly limited, and J. Lewis Smith's rule was a useful one for this purpose. Regularity of feeding was also of great importance, and should be strictly adhered to. In connection with apparatus, the speaker said the long rubber tube should be avoided. A plain bottle with a simple nipple being the best The most rigorous care was necessary in connection with every article used in artificial feeding, and great stress should be laid upon this point.

Dr. T. M. Hayden, of Fresno: We have got to adopt our food to each individual infant. Generally we are not consulted until the intestinal tract has been pretty well irritated and upset by improper food. The first thing to do is to cleanse the intestinal tube and render it reasonably aseptic. Perhaps the first thing we do is to give castor oil. In the San Joaquin valley, where our cattle are fed alfalfa, their milk is not fit food for infants and we have to rely upon artificial food. Formerly I used malted milk a great deal, but there does not seem to be any nutritive value in it. The babies' stools seem to have too much liquid in them. It does not stay long enough in the canal to become [illegible]. The best [illegible] [illegible]. Perhaps the milk is [illegible] the baby. [illegible] feeding in infants is more important than in adults, as their digestive [illegible] is more easily disturbed.

Dr. W. N. Sherman, of Merced: A great deal of this trouble is due to the [illegible]. According to the latest methods the milk is pasteurized and the bottles are sterilized before they are filled, which preserves the milk for a long time, rendering it practically aseptic. There is another method that is original with me, but which I have used only in a limited way, for the purpose of preserving the milk—it is to have the bottle washed out with a solution of formalin. Five drops of formalin to a quart of milk will preserve it for 48 hours. I prefer a combination of milk and lime water, having the milk and cream in proper proportions. You will find a great difference in the fatty constituents of milk. You may get bad results, as irritation of the alimentary canal, by giving too rich milk, when you think you are giving the proper food.

Dr. T. R. Meux, of Fresno: There is one point which has not been touched upon, and that is the feed of the cow. I prefer cows' milk to any of the baby foods on the market. I use as much care in selecting the cow Cows in this valley are fed principally on alfalfa I have always recommended a healthy cow that gives rich milk, and that is fed on bran or something of that kind. Not only have the bottles thoroughly cleansed, but in the interim of feeding, have it cleansed with sterilized water and boracic acid solution, and dilute the milk with sterilized water. I have never been in the habit of adding cream as has been spoken of to-night. I get rich milk and dilute it according to the age of the infant, and I have always had a good deal of satisfaction from that diet; more so than from any artificial preparation.

Dr. N. P. Duncan, of Hanford: This is an alfalfa country, but I must add my condemnation of alfalfa as food for cows when the milk is used by infants. I have been practising in this country about 23 years When I first came here, I noticed very soon that there was something wrong about the milk. I took a cow and put her on dry grain hay, and I found that the results, as far as infants were concerned, were better. After a while they became careless and fed her dry alfalfa, and I found it to be about as good as the grain hay. I think it is the green alfalfa that causes the trouble.

Dr. H. Hildreth, of Delano: I condemn green alfalfa as food for cows when the milk is intended for infants. When you feed dry grain hay you will have no trouble. As far as manufactured infant foods are concerned, they have all failed in my hands. I do not think it could be due to my ignorance, for I have had the advice of all the old women in my neighborhood. Dry hay and clean pure water are the main things, as far as cow feed is concerned. Some children are very aggravating and difficult to handle. Amongst the Danish and Germans you will often see them give very young babies a piece of bacon to suck, and they seem to get along all right, but when you run across one of these little cranky babies born of some of our American neurasthenic mothers, you will have a hard time to find anything to suit, and the sooner they get off the earth the better.

Dr. Hayden, of Fresno: I have used the Rotch formula, but the results were not satisfactory. You will have to adapt your food to the infant, as with an adult. There are men who can eat ham and eggs every day in the year for breakfast, but I cannot do it. It is a fact that when you find a vigorous Danish infant, you will have little trouble in supplying a food that will agree with it, but amongst some of the Americans it is quite different; they are neurasthenic; you will have to give them Fairchild's peptogenic milk powder, and have a thermometer to take the temperature. I had a case last week and lost it. In the beginning milk would agree with it. The trouble is we are never consulted in the beginning of the trouble, but we are called after some old woman has tampered with the child's digestion.

Dr. J. A. Moore, of Hanford: It is the habit for some old women, for the first few hours, to feed the children whisky and water, catnip tea, etc., and the child's stomach is upset before they say anything about it. My experience has [illegible], in a majority of cases, that such children will [illegible] milk [illegible] ately [illegible] with the [illegible] and milk sugar and an extra amount of cream, if [illegible] to start with.

Dr. J. C. Moore, of Lemoore: After having attended a woman in labor, if you find she is [illegible] the child, it is [illegible] see that the child is properly fed, and if you will do this you will be able, in a majority of cases, to avert this trouble.

Dr. F. A. Coombs, of Visalia: I believe I have just as much right to talk about babies as anybody. I have been in this business for more than half a century, and have raised them on all kinds of food. I have never seen, in all my experience, anything that would beat the milk of an ass or mare, but, unfortunately, we cannot get it, at all times. The nearer you can get cow's milk to simulate the proportions of human milk, the nearer you will come to what will agree with the greatest number of children, but, as Dr. Hayden has said, you will have to adapt the food to the exigencies of the child. I happened to be called in once to see a baby, 18 months old, that was suffering from cholera infantum. The mother had been informed previously that the baby would die. There were four little children there, and the little one lay in the cradle, hardly able to raise its little thin arms and hands. The mother said, Doctor, what do you think of my baby? I said, your baby will die in about five hours. The father came in with a piece of cheese, handing some to each of the other children, when the little one reached up for some of the cheese. The mother said, why not gratify it with that cheese. I broke off a piece about as large as my three fingers, and gave it to the child, and yet another piece, and it came to pass that that child's bowels had to be opened with castor oil, and it finally recovered. Subsequently I was elected a delegate to the State Medical Convention, at Jefferson, the Capital of the State. I had prepared myself with one of the biggest speeches I ever made. I thought I had struck the key-note for feeding babies. I told what I had to say about it and sat down, flattering myself that I had done something, when old Dr. Hodgen, of St. Louis, got up and said, the doctor from Marshall has made a very nice speech, but I wish to inform him that I have used the same thing for over 40 years. It will do good sometimes. With regard to alfalfa as food for cows, when the milk is used for babies, I believe it is poisonous to the tender bowel. Some speakers have said that the effect of dry alfalfa is not so pernicious to the bowel. I believe this is so; I agree with them in their opinion.

Dr. G. A. Hare, of Fresno: I think Dr. Moore hit the nail squarely. I believe we, as physicians, do not fulfil our duty to our patrons when we do not inquire into the feeding of babies or by giving instructions as to how it should be done. If we do this, there will be fewer artificially fed babies and fewer fatal terminations. I was pleased to hear the remarks of Dr. Hayden in regard to the selection of a food, as the case demanded. When you run across some of these babies that will get along upon most anything, they are of the lower order of humanity. They grow up more like animals and can stand most anything; but you take a finely developed child, it is much more easily influenced, because of its nervous make-up, and it is hard to feed. I think the utmost care as to food and regularity of feeding are very essential.

Dr. Hildreth, of Delano: I think puny, nervous infants are not worth raising, as they generally prove to be a detriment to the communities in which they live. Without a good stomach you cannot have a sound mind, and without it you cannot have a good body. When a syphilitic comes to us and says, I want to marry, or when should I marry? if the physician does his duty he will tell him he should never marry. Nervous, delicate infants, born of nervous, delicate parents, are no good.

Dr. Duncan, of Hanford: I had a case, that of a child about a year old, who had cholera infantum which ran into chronic diarrhea. The child was wearing away and seemed about to die. The mother, one day, gave it a little piece of bacon to suck. When I went there next day she told me what she had done, and I thought the child seemed to be a little better. I told her to give it some more bacon which she did, and the child got well right along. She fed it other food besides.

DR. A. SHAFFER, of Bakersfield: In the [illegible] country it is the [illegible] [illegible] baby [illegible] as [illegible] as it is born. I [illegible] know where [illegible] [illegible] [illegible].

DR. T. E. TAGGART, of Bakersfield: I always give it; it is good for the mouth, [illegible] is also a good [illegible] tonic.

DR. CHESTER ROWELL, of Fresno: You can hardly find two infants who can be fed alike. From my observation I have concluded that some modification, in most of the cases, of the formula given by the doctor, is the best you can do. I am satisfied, in these cases, where cows are fed green alfalfa in the early spring, that their milk is not safe to feed little children, but when you can get good cow's milk from a reliable source, and give the milk sterilized and with cream, it is all right. In the absence of this give condensed milk, upon which many will do fairly well. Above all, where possible, let them have mother's milk, but do not let the mother live on alfalfa or green apples.

A Case of Extrauterine Pregnancy in a Cow.—DR. A. B. COWAN, of Visalia: I desire to relate something which I think will interest you. It is a case of extrauterine pregnancy in a cow. Having heard of it, and the case being rare, I went to see it. The cow was to have thrown her calf in February last. At that time she had all the usual symptoms; enlarged udder, and was put where she could be watched or seen to, and was kept there about two weeks, but failed to throw her calf. Finally the man become disgusted and turned her out with the balance of his cattle. The abdomen diminished in size somewhat, the bag dried up, and the cow seemed apparently well. In a couple of months afterwards she had similar symptoms, but remained well. About three days ago the owner went out into the pasture and observed three legs of a calf protruding through the abdominal wall, each in a different place. The interesting point is that the cow seemed to be well. She eats with the rest, there being no fever, and her eyes are bright. Two of the legs are half way through the wall of the abdominal cavity.

DR. J. C. MOORE, of Lemore: I saw a case similar to this in a human being. The woman was within three weeks of being confined. One day she went down into a cellar when a large Newfoundland dog jumped upon her striking the abdomen. She was unconscious for a time and had some abdominal inflammation, but recovered. For about eight years afterwards she remained in good health. Finally she went to Dr. Lane, of San Francisco, to be operated upon for a supposed tumor. The doctor opened the abdomen and found, not an ovarian tumor, but a sac enclosing a child. The flesh from the bones had become absorbed, it being reduced to a mere skeleton. It was not protruding. The fetus was decomposed, and some of the bones denuded. There was no rupture of the uterus.

Epidemic Acute Polio-myelitis.—DR. W. N. SHERMAN, of Merced: I want to call your attention to some very rare cases of epidemic polio-myelitis. I was called in consultation to see them, and it is so rare in this form that it was interesting to me. The cases were three boys in the same town, one proving fatal. One of these boys was the son of a physician, and the other two were brothers in the same family, and all lived close together. They do not know what was the cause of the trouble. The son of the physician had paralysis of one arm, one of the others suffered a slight paralysis of the lower extremities and recovered, not being completely paralyzed. The third one lost the use of both legs completely. I saw him in San Francisco a few days ago, and he is partially restored in one leg. What I want to speak of particularly is the unusual circumstance of the disease coming in an acute and epidemic form.

Place of Next Meeting.—Fresno was unanimously selected as the place at which the next or annual meeting will be held.

New Members.—At the different sessions the following were duly elected members of the Society: F. A. Combs, W. W. Cross, A. B. Cowan, J. D Davidson, R. E Dixon, A. F. Shaffer, A. L Wilson.

MEDICAL NEWS.

LICENTIATES OF THE BOARD OF EXAMINERS.

At a meeting of the Board of Examiners, held November 1, 1898, the following were granted certificates to practise medicine in this State:

Howard M. Black, San Francisco; Coll. Phys. and Surg., San Francisco, July 14, '98.
William S. Fowler, Chicago; Coll. Phys. and Surg., Chicago, Ill., Feb. 26, '88.
Daniel F. Ray, Stockton, Cal.; Med Dept. Vanderbilt Univ. Tenn., March 1, '98.
Geo H. Scott, Redlands; Jefferson Medical Coll., Pa., March 7, '57.
David Hall Sherwood, San Francisco; St. Joseph Medical College, Mo., Feb. 27, '85.
Charles E. Taylor, Wilkeson, Wn.; Med Dept. Univ of Oregon, April 1, 97.
Louis G. Visscher, Los Angeles; The Univ. Leiden, Holland, Jan. 28, '98.

CHAS. C. WADSWORTH, Secretary.

Official List of Changes in the Stations and Duties of Officers serving in the Medical Department of the U. S. Army (Division of the Pacific) from October 20, 1898, to November 20, 1898.

Upon the recommendation of the Chief Surgeon, Acting Assistant Surgeon Jas. B. Cutter is relieved from duty at the Division Hospital and will report to the Commanding Officer Presidio of San Francisco, for duty in the Post Hospital. Par. 2, S. O. 163, Dept. Cal., Oct. 21, 1898.

Upon the recommendation of the Chief Surgeon, Assistant Surgeon Henry D. Smith, 20th Kansas Volunteer Infantry, is relieved from duty at the Division Hospital and will report for duty with his regiment. Par. 1, S. O. 164, Dept. Cal., Oct. 22, 1898.

The leave of absence for ten days, on surgeon's certificate of disability, granted Acting Assistant Surgeon H. B. Emerson, by Par. 3, S. O. 26, c.s. Hdqrs District of Hawaii, is extended 20 days on surgeon's certificate of disability, with permission to apply to the Adjutant General of the Army for a further extension of 10 days. Par. 1, S. O. 165, Dept. Cal., Oct. 24, 1898.

Upon the recommendation of the Chief Surgeon, Captain Thomas U. Raymond, Assistant Surgeon, will make a special sanitary inspection of the posts of Angel Island and Fort Baker, California. Par. 13, S. O. 165, Dept. Cal., Oct. 24, 1898.

Leave of absence for one month on surgeon's certificate of disability, and with permission to leave the limits of the Department, is granted Major W. S. H. Matthews, Surgeon 51st Iowa Volunteer Infantry, to take effect when he shall be relieved of his present duties by Major Guy L. Edie, Brigade Surgeon U. S. Vols. Par. 6, S. O. 166, Dept. Cal., Oct. 25, 1898.

Upon the recommendation of the Chief Surgeon, Acting Assistant Surgeon G. W. Daywalt, now in this city, is assigned to temporary duty at the Division Field Hospital, Presidio of San Francisco. Par. 1, S. O. 170, Dept. Cal., Oct. 29, 1898.

Upon the recommendation of the Chief Surgeon, Assistant Surgeon R. M. Kirby Smith, 1st Tenn. Volunteer Infantry, is relieved from duty at the Division Field Hospital, Presidio of San Francisco, and returned to duty with his regiment, Par. 2, S. O. 170, Dept. Cal., Oct. 29, 1898.

Leave of absence for fifteen days on account of sickness, based on surgeon's certificate, is granted Captain R. M. Kirby Smith, Assistant Surgeon 1st Tenn. Volunteer Infantry. Par. 3, S. O. 178, Dept. Cal., Nov. 8, 1898.

Upon recommendation of the Chief Surgeon, Maj. Rudolph G. Ebert, Surgeon, is assigned to duty at the Division Field Hospital, the Presidio of San Francisco, vice Maj. W. S. H. Matthews, Surgeon 51st Iowa Vol. Infantry, hereby relieved from duty at that hospital. Par. 3, S. O. 179, Dept. Cal., Nov. 9, 1898.

Acting Assistant Surgeon A. J. Pedlar will proceed to Los Angeles, and report to Captain Sedgwick Pratt, 3d Artillery, Chief Mustering Officer, to make the medical examination of officers and enlisted men required by G. O. 124, c.s., Hdqrs. of the Army, on muster out of the 7th Cal. Vol. Infantry. Upon completion of this duty he will return to his proper station. Par. 5, S. O. 179, Dept. Cal., Nov. 9, 1898.

Acting Assistant Surgeons J. B. Cutter and E. C. Webb will report for temporary duty to Captain Henry C. Danes, 3d Artillery, Mustering Officer, at the camp of the 6th Cal. Volunteer Infantry, to make the medical examination of officers and enlisted men required by G. O. 124, c.s., Hdqrs. Army, on muster out of that regiment. Par. 6, S. O. 179, Dept. Cal., Nov. 9, 1898.

Upon the recommendation of the Chief Surgeon, Captain Thomas U. Raymond, Assistant Surgeon, will make a special sanitary inspection of camp near Fort Winfield Scott and of the old fort itself, with view to the suitableness of the casemates therein for quartering of troops. Par. 3, S. O. 182, Dept. Cal., Nov. 14, 1898.

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[illegible] of the Chief Surgeon, Acting Assistant Surgeon [illegible] [illegible] Par. 5, S. O. 182, Dept. Cal., Nov. 14, 1898.

Upon the recommendation of the Chief Surgeon, Acting Assistant Surgeon Robert B. Williams will [illegible] Par. 1, Sec. 2, G. O. 128, c.s., [illegible] Infantry, which [illegible] by the War Department to be immediately [illegible]. Upon completion of this duty Acting Assistant Surgeon Williams will return to his proper station. Par. 4, S. O. 183, Dept. Cal., Nov. 15, 1898.

So much of Par. 5, S. O. 182, c.s., from these Hdqrs, as relates to Acting Assistant Surgeon Chas. Y. Brownlee, is revoked. Par. 2, S. O. 184, Dept. Cal., Nov. 16, 1898.

Upon the recommendation of the Chief Surgeon, Acting Assistant Surgeon Frank B. Robinson, now at the Presidio of San Francisco, is assigned to duty in the Division Field Hospital at that post. Par. 6, S. O. 186, Dept. Cal., Nov. 18, 1898.

Upon the recommendation of the Chief Surgeon, Acting Assistant Surgeon Charles Y. Brownlee is assigned to duty on the transport Tacoma, and will report at once to the commanding officer of the detachment of United States troops on that ship. Par. 2, S. O. 187, Dept. Cal., Nov. 19, 1898.

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